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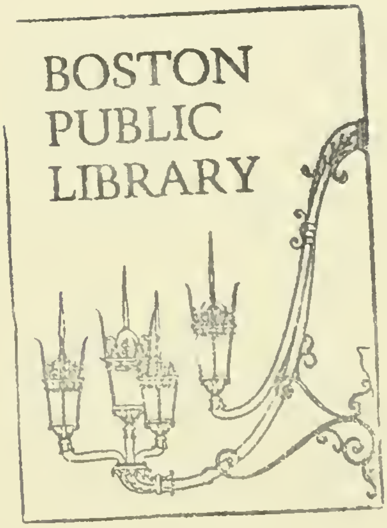

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CUSTOM HOUSE
BOARD OF TRADE BUILDING
HOTEL PROPOSAL

FINAL PROJECT IMPACT REPORT

Submitted To:

BOSTON REDEVELOPMENT AUTHORITY

Proponent:

BEAL CH LIMITED PARTNERS, INC.
C/O THE BEAL COMPANIES
177 MILK STREET
BOSTON, MA 02109

Hotel Operator:

INTER-CONTINENTAL HOTELS GROUP

SEPTEMBER 20, 1991

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CUSTOM HOUSE INTER•CONTINENTAL HOTEL

FINAL PROJECT IMPACT REPORT

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EXHIBITS

I - Preliminary Adequacy Determination
II - Utility Survey
III - Hotel Waste Management Program

A. GENERAL INFORMATION AND PROJECT SUMMARY

A. GENERAL INFORMATION AND PROJECT SUMMARY

Complete in DPIR

B. TRANSPORTATION COMPONENT

B. TRANSPORTATION COMPONENT

The proponent will work with the Boston Transportation Department (BTD) in regards to the preparation and execution of the Transportation Access Plan. Traffic flow and pedestrian flow will be analyzed carefully by both BTD and the proponent to provide the highest level and quality of access. Measures will be studied to reduce trip generation during peak traffic hours.

The proponent will continue to work with the MBTA on the proposed Aquarium Station extension. A Construction Management Plan will be drafted and reviewed with BTD prior to formal submission.

1. Page 28 of the Transportation Access Plan Report prepared by Vanasse Hangen Brustlin, Inc. is provided at the end of this section.

2. The precise peak hours were not specified in the report because the peak hour generally varies among count locations. No system-wide peak hour could be identified, except for weekday mornings when all morning peak period counts showed the peak hour to be between 8:00 and 9:00 AM. Evening weekday peak hours varied between 4:30 to 5:30 PM and 5:00 to 6:00 PM.

   The greatest variation occurred on the weekend. The automatic traffic recorder count on State Street showed a peak hour between 2:00 and 3:00 PM on Saturday, while the count on Broad Street showed a peak hour between 3:00 and 4:00 PM on Saturday. As a result of these counts, a five intersection turning movement counts were conducted between 2:00 and 4:00 PM on Saturday. The highest hourly volume occurred during four different periods at the five intersections. Two intersections had peak volumes between 2:00 and 3:00 PM, while the other three locations varied between 2:15 to 3:15 PM, 2:30 to 3:30 PM, and 3:00 to 4:00 PM.

3. The following is an explanation of the reduction in volume for the right turn from State Street onto India Street from 180 movements/hour to 80 movements/hour:

   The reduction in volume was shown in the left-turn volume from State Street to India Street and was the result of an incorrect volume shown on Figure 2, Existing Traffic Volumes. The existing volume should be 80 and remains unchanged under No-Build conditions (Figure 6). Under Build conditions the volume rises to 148. The existing volume was incorrect only on the figure. The level-of-service analysis for Existing conditions was conducted using the correct volume.

respectively. This is because the existing offices at 131 State Street generate more transit trips in the morning and evening peak hours than will the proposed hotel and museum. As a result, the project is expected to have no adverse impact on existing transit conditions during the commuter peak hours. Therefore, a detailed analysis of future transit conditions was not conducted for this study.

SITE ACCESS AND LOADING

The proposed site plan for the development is presented in Figure 10. The hotel's main entrance will be located on India Street, with secondary entrances provided on State Street, McKinley Square, Broad Street, and Central Street. Valet parking service for guest cars will be provided at the main entrance on India Street. India Street will remain open but will become one-way southbound and will be narrowed to two lanes to accommodate the main entrance and drop-off/pick-up area. It is also proposed that McKinley Square be closed, but retain access for emergency vehicles. No other street circulation changes are proposed as part of the project.

Deliveries to the proposed project will be made through an off-street loading facility located along Central Street on the south side of the 131 State Street building as shown in the site plan. Delivery trucks will access the loading area via Broad Street to Central Street or via India Street. The trucks are expected to back up into the loading area using India Street or Central Street.

CONSTRUCTION IMPACTS

Construction plans for the Custom House and 131 State Street have not been finalized at this time. It is currently anticipated that construction will commence in November or December 1991 and continue for approximately 22 months. The material presented in this section is based on the best estimates available at this time.

Construction Employee Trip Generation and Parking

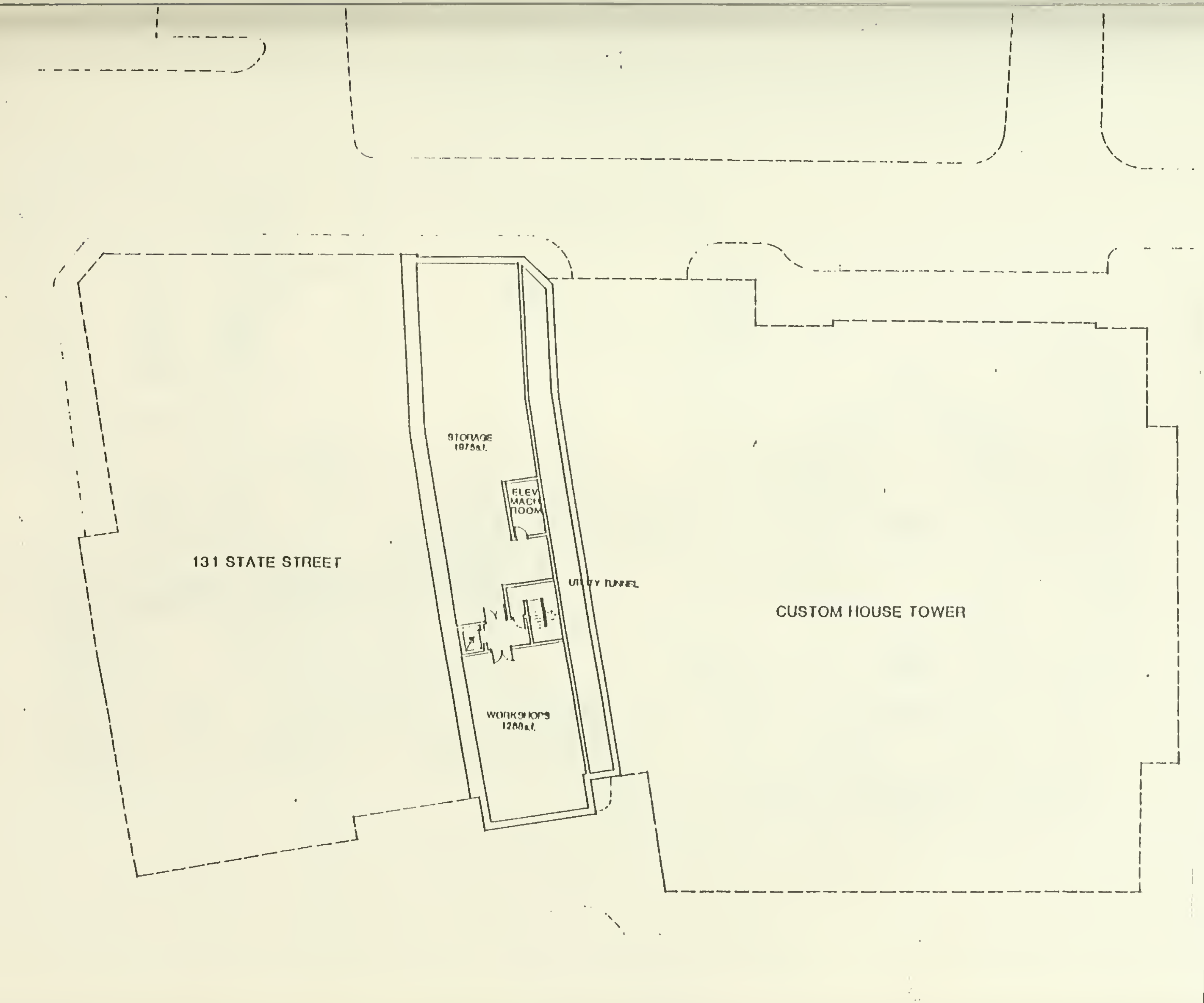
The number of workers required over the 22-month construction period will vary, with an estimated average daily work force of 150 and a peak work force of approximately 300. Trip generation by construction workers is a direct function of employment levels. An auto occupancy of two or three persons for construction workers is not unusual given the costs of parking downtown and the greater inclination of construction workers to carpool. A significant portion of the workers will likely utilize public transportation due to the downtown location of the site and its good accessibility via transit. Based on the occupancy levels cited above and a fifty percent transit rate, the 300 employees during the peak construction period would generate from 50 to 100 vehicle-trips each peak period if all employees arrive by automobile during the same hour. Because of their typical 7:00 AM to 3:30 PM work schedule, construction workers generally travel before the peak commuting hours. As a result, they do not add to commuter peak hour traffic and no significant impact to the area roadway system is anticipated due to construction worker vehicle-trips.

C. ENVIRONMENTAL PROTECTION COMPONENT

C. ENVIRONMENTAL PROTECTION COMPONENT

1. The depth of the excavation in India Street is approximately 12' from the street level to the basement level. The basement level extends between 131 State Street and the Custom House. Beneath the basement level in India Street a sub-basement is planned. The sub-basement will be approximately 20' from the street level. The sub-basement is approximately 28' by 158' and runs in the center of the basement. It will be used for storage purposes only. The following schematic plans depict the sub-basement and basement levels.

   The groundwater level is approximately 12' to 15' below street level.



Consultants

Project Number
90026

Drawn by

Checked by

Date 1 MAY 1991

No. Revision Date By

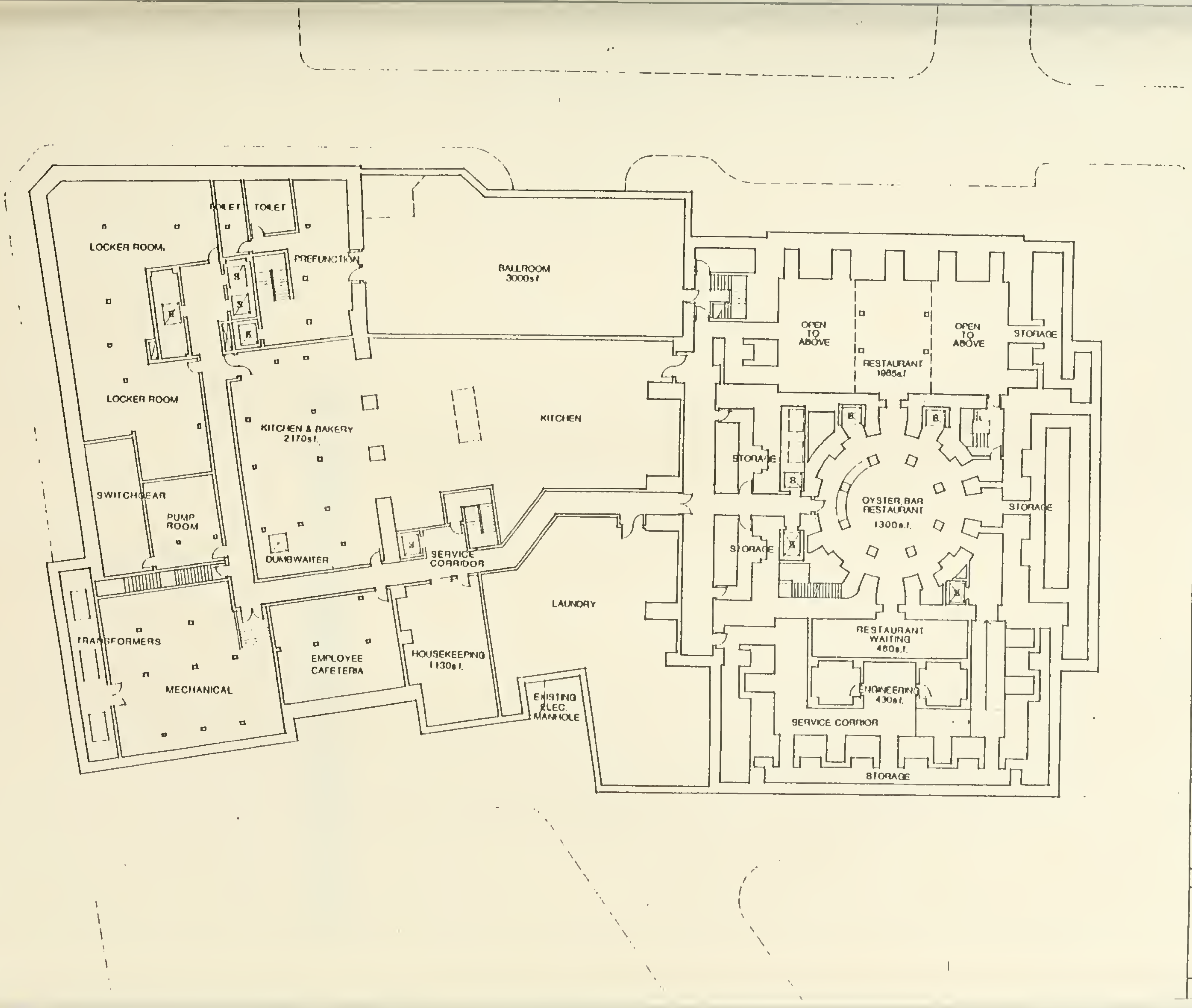
Project
THE
CUSTOM
HOUSE
HOTEL

Drawing title
SUB-
BASEMENT
FLOOR PLAN

Scale 1/16":1'-0"

Drawing Number
A-2

Set SCHEMATIC



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Consultants

90026

1 MAY 1991

THE
CUSTOM
HOUSE
HOTEL

BASEMENT
FLOOR PLAN

1/18"=1'-0"

A-3

SCHEMATIC

D. URBAN DESIGN COMPONENT

D. URBAN DESIGN COMPONENT

1. Complete in DPIR

E. HISTORIC RESOURCES COMPONENT

E. HISTORIC RESOURCES COMPONENT

1. The final Portion of the Historic Structures Report, Part III, follows.
2. The Proponent is working with Steve Pendry, City Archeologist, on research relating to the archeology resources that may be located beneath India Street. The below grade construction is limited to the area between the Custom House and 131 State Street. A historical survey will be conducted to determine the extent and nature of these potential resources, and measures will be taken to mitigate any potential impacts from the project.

THE CUSTOM HOUSE AND TOWER

BOSTON, MASSACHUSETTS

HISTORIC STRUCTURE REPORT
PART III

Description of the Impact of Proposed Alterations
to the Historic Building Fabric of the
Custom House and Tower

Prepared by:

Andrea M. Gilmore
Architectural Conservator

Conservation Center
Society for the Preservation of
New England Antiquities

September 1991

I. INTRODUCTION

The purpose of Part III of the Historic Structure Report is to describe and assess the impact to the Custom House and Tower of the proposed alterations required to adaptively reuse this landmark building as a hotel. The hotel proposal described in this report joins the Board of Trade Building (131 State Street) to the Custom House.[1] The joined buildings provided the space required for a modern hotel - a reception area (Board of Trade Building), restaurants (Custom House), meeting rooms (Custom House and Board of Trade Building), guest rooms (Custom House and Board of Trade Building), and service areas (Board of Trade Building). The proposed changes to the exterior of the Board of Trade Building will also be described and assessed in this report.

The major exterior change that affects both buildings is the proposed connector between the Custom House and the Board of Trade Building. Foundation structural conditions preclude the construction of an underground connector between the buildings. The current proposal connects the second floor of the Board of Trade Building with the first floor of the Custom House.

Other architectural changes described and assessed in this report include:

CUSTOM HOUSE EXTERIOR

- Replacement, as necessary, of window grates of the basement floor windows.
- Replacement of current vestibule entries with entries that replicate the Peabody and Stearns design.

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[1] The proposal reviewed in this report was prepared by the designated developer - The Beal Companies and Intercontinental Hotels. The alterations were designed by the architects Jung/Brannen Associates, Inc. and CBT Childs Bertman Tseckares & Casendino, Inc.

- Replacement of steel sash windows in the 1847 Custom House. Replacement windows will replicate the c. 1915 windows.
- The reopening of the attic windows on the north pediment as shown in the nineteenth century photos of the north elevation.
- Cleaning and repointing the exterior masonry. Investigation and repair of broken granite block, specifically around the eagles.

BOARD OF TRADE BUILDING EXTERIOR

- The two-story glass addition to the east (India Street) elevation.
- The three-story brick, glass, and metal addition to the top of the building.

CUSTOM HOUSE INTERIOR
LANDMARK DESIGNATED SPACES

Basement through Third Floor

- The addition of shuttle elevator door openings in the Rotunda. Door openings to match the existing openings.
- The replacement of the existing c. 1950 elevator fronts. Active openings will be reduced from four to two. Design of the replacement elevator fronts will replicate the Peabody and Stearns design.
- The replacement Rotunda doors that are not original to the Peabody and Stearns remodelling. Replacement doors will match the Peabody and Stearns design. (The swing on some of the doors may be changed.)

First Floor

- The addition of three openings in the west side of the north vestibule and glaze the openings. Glaze the existing three openings on the east side.
- The relocation of all doors in the east vestibule so that the fire stair meets code.
- The addition of two new doors in the east vestibule for egress.

Second Floor

- The change of the swing of the following doors:
    - southeast rotunda door,
    - south room, north wall, east door, and
    - the removal of the west door in the north vestibule.

Third Floor

- The change of the swing of the following doors:
    - north vestibule - east, west, and east door in north wall.
- The construction of a new stair in the northwest corner of the building from the third floor to the attic level.

These changes have been reviewed and assessed according to:

- the Secretary of the Interior's "Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings"
- the Boston Landmarks Commission's "General Standards and Criteria" and "The U.S. Custom House: Specific Standards and Criteria."

These standards and criteria are included as Appendices of this report.

The impact of the proposed exterior alterations to the Custom House and the Board of Trade Building to the Custom House National Register District will also be assessed.

II. CUSTOM HOUSE/BOARD OF TRADE BUILDING CONNECTOR

The preservation and successful reuse of Boston's landmark Custom House and Tower have presented the city's preservationists, architects, and developers with an enormous challenge. The limited square footage of the Tower floors and the monumental, landmark designated spaces of the 1847 Custom House physically restrict possible reuse options for the building. Prior development proposals to adaptively reuse the Custom House independently have proved infeasible due to these space limitations. Joining the Board of Trade Building to the Custom House significantly reduces these space limitations and realistically appears to be the most feasible means of achieving the goals

of preserving and reusing the Custom House. Combining the two structures, however, does require the construction of a connector.

Structural investigation of the Custom House has revealed that a guest underground connector is not feasible. The cast iron base plates, the concrete encased steel grillage and concrete caissons. poured in 1911 to support the construction of the Tower, preclude the construction of high-speed elevators to the basement level. High-speed elevators, serving all public floors of the building, are considered requisite for the successful reuse of the Custom House as a hotel. Furthermore, the slab of the Board of Trade Building and the height and width of the existing foundation openings in the Custom House and Board of Trade Building make an underground connector between the buildings structurally impractical.

Given these restrictions, numerous designs have been proposed and reviewed for an above-ground connector. The designs are summarized in the report titled "Custom House/ 131 State Street Hotel, Boston, Connector Design Alternatives Report prepared by CBT Childs Bertman Tseckares & Casendino, Inc., May 1, 1991." A copy of this report is appended. It is not the intent of Part III of the Historic Structure Report to review and evaluate these designs. Rather this report will specifically describe and evaluate the impact on the historic buildings and streetscape of Design Alternative 5.1. - Addition to the Board of Trade Building with Bridge into Custom House Portico. (Figures 1-3) As described in the CBT report:

> The connector is an addition to the India Street facade of the Board of Trade Building. A two-level glass structure encloses and highlights the center columns. A second floor bridge to the Custom House would be located in one of the three locations. (The connector that joins the south end of the 131 State Street glass enclosure to the main entrance of the Custom House is the location selected for review.) Hotel drop-off occurs on India Street, which remains open to pedestrian and vehicular traffic.

The Custom House/Board of Trade Building connector is new construction. In the Secretary of the Interior's "Standards for Rehabilitation" the following general standards apply to new construction.

> Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.
>
> Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

The connector to the Custom House adequately meets the requirement that it not destroy significant historical, architectural or cultural material. It bridges the west elevation stairs, leaving them completely intact; it enters the west portico through the historic column interval; and it connects to the west entry door with minimal alteration. The existing stone that frames the entry will not be altered and the attachment and seal to the building can be minimized due to its sheltered location.

Assessing the compatibility of the design of the connector with the size, scale, color, material and character of the property, neighborhood or environment is the more critical preservation issue. Its size and scale are as modest as possible to meet its use requirement - to span India Street and to provide the major public entrance to the Custom House that allows people and luggage to pass freely. The color and material of the connector have also been carefully selected to minimize their impact on the Custom House and the sight lines of India Street. Its glass walls are partially transparent. Granite and brick, the principal cladding materials of the Custom House and Board of Trade Building, respectively, are not suited for connector construction. While not connectors, modern glass additions have been built onto nearby historic buildings, most notably the Quincy Market buildings. Glass and steel were the materials selected for these additions because they minimize the impact of the

structures on the market buildings themselves, as well as the relationship of the market buildings to one another. Their glass and steel construction also minimizes the effect of these structures on the historic street plan of the markets. The effect of the connector on the property - the Custom House - is, as described above, physically minimal. None of the building's historic fabric will be removed or altered for its construction. Nor does the connector change the overall proportions of the building; its footprint remains the same. The principal impact of the connector is visual; it changes the appearance of the west elevation of the Custom House. The connector spans the west elevation stairs and seals the west entry. The visual effect of the grand stairs descending to India Street is overwhelmed by the horizontal span of the connector. The architectural integrity of the columns also is adversely changed by the connector; they no longer function as an uninterrupted colonnade. In addition, the connector blocks the view of portions of the Custom House as seen looking north and south on India Street.

One positive effect of the connector, specifically on the property, that should be noted, is that it restores entry into the building to the Rotunda. Rather than enter the building through the basement; visitors will again come into the grand domed space. Equally significant, the Rotunda and the other landmark interior spaces of the Custom House will again be public. The proposed use plan for the Custom House Hotel, with the public rooms in the 1847 portion of the building and the private guest rooms in the Tower is reflective of the building's early twentieth century use pattern.

Another factor relating to the property, that bears consideration, is that the Custom House has been altered significantly in the past to accommodate new use requirements. The east and west stairs were changed in the nineteenth century and the tower constructed in 1915. The impact of the connector on the building pales by comparison to these changes.

The effect of the connector on the environment, defined in this text as "India Street, or the west side of McKinley Square" is also significant. The connector will be a horizontal structure across India Street. The view down India Street from State Street will be changed. The perspective down the street will be shortened and the view of some of the State Street buildings partially blocked. Construction of the connector at the second story, rather than street level, mitigates its effect on the streetscape. Its proposed height also mirrors that of the horizontal spans of the Central Artery that cross the south end of India Street and the east end of State Street.

Historic photographs of India Street (Figures 4 and 5) further show that it has already changed markedly from its early twentieth century appearance. In the early photos, the west side of McKinley Square is shown as a broad cobbled surface with irregularly defined boundaries. Automobiles are shown moving through and parking in the space in random routes. Similarly, pedestrians cross the space in all directions. Today, the density of traffic and pedestrian use and current traffic regulations require that the west side of McKinley Square function as a modern street. (Figures 6 and 7) The area in front of the Custom House, on either side of the stairs, is used for parking. Two-way traffic between the Custom House and the Board of Trade Building further defines the street's use pattern. The requirement of the Boston Transportation Department that India Street remain open assures that the west side of McKinley Square will never be returned to its early twentieth century form or function. The construction of the connector therefore, must be viewed as another twentieth century alteration to India Street, rather than as its sole transforming alteration. In addition these changes are reversible. Should the combined use of the Custom House and Board of Trade Building be terminated in the future, the connector can be easily removed and the existing appearance of India Street restored.

The Boston Landmarks Standards and Criteria that are applicable to the assessment of the impact of the connector relate to the new use and construction proposed for the Custom House and Board of Trade Building. The General Standards and Criteria state: "It is recognized that changes will be required in designated properties for a wide variety of reasons, not all of which are under the complete control of the Commission or the owners." An example cited is: "Changes due to proposed new uses of a property."

The Boston Landmark Commission (BLC) General Standards and Criteria applicable for new construction adjoining the Custom House are as follows:

- New additions or alterations should not disrupt the essential form and integrity of the property and should be compatible with the size, scale, color, material and character of the property and its environment.
- Contemporary design is encouraged for new additions; thus, they must not necessarily be imitative of an earlier style or period.
- New additions or alterations should be done in such a way that if they were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

The specific BLC Standards and Criteria for the Custom House that relate to new construction state:

- No additions shall be permitted to the existing massing of the building.

The general BLC Standards and Criteria repeat some of the requirements of the Secretary of the Interior's standards. The issues of the compatibility of the connector in size, scale, material and character of the property and its environment have already been discussed above.

The general BLC standard encouraging new additions to be of contemporary design is met by the connector. The primary objective for the design of the connector has been to minimize its impact on the Custom House, the Board of Trade Building and India Street. No attempt has been made to imitate design elements from either of the historic buildings. The simplicity of the design and materials used for the connector and the candid way that it joins the building (spanning the historic stairs of the Custom House) leave little doubt that even the uninformed viewer will recognize that the connector is a modern structure designed to facilitate the combined use of the two historic buildings. The reversibility of the design of the connector has also been discussed above.

The specific BLC requirement that "no additions shall be permitted to the existing massing of the building" relates to the assessment of the connector on the overall proportions of the Custom House. As defined by the BLC, massing is the "physical volume or bulk of a solid body" (a building). The construction of the connector will not change the actual physical volume or bulk of the Custom House. No measurable alterations will be made to the building to construct the connector. There may be a visual perception that the connector changes the Custom House's massing, however, this visual effect is not based on physical reality.

In addition to being a Boston landmark, the Custom House and the Board of Trade Building are located in the Custom House National Register District. As described in the National Register of Historic Places Nomination Form: "The Custom House District is an exhibit of mixed commercial architecture reflecting Boston's development as a major mercantile city." Important buildings within the district and near the Custom House include: The Central Wharf Buildings (1819) at 146-176 Milk Street, the State Street Block (1858) at 177-199 State Street, the Grain and Flour Exchange Building (1892) at 177 Milk Street. A more modern building within the district, of less

architectural import than the nineteenth century buildings named above, is the Insurance Exchange Building.

The construction of the proposed connector across India Street and the addition of the two-story glass and steel enclosure to the Board of Trade Building will have a significant impact on the Custom House District. The historic streetscape of India Street will be altered and the exterior appearance of the Custom House and Board of Trade Building will be changed. In addition, the buildings will no longer function or stand independently. The effect of all these changes to the district is essentially visual; no changes are proposed that will effect the physical condition of the buildings in the district.

The visual impact of the connector, however, is isolated by the size and form and the surrounding buildings and the irregular historic street pattern. It will not be visible from the State Street Block, nor from most of the Central Wharf. Similarly, its view is blocked from the lower floors of the Grain and Flour Exchange Building. The upper floors of the Grain and Flour Exchange will look down on the connector, a vantage point that reduces its visual impact since it will be viewed in plan rather than in elevation. Views north from the Insurance Exchange Building will be most altered by the construction of the connector, particularly views from the lower floors. Preserving the existing view of the Custom House and the north side of State Street from the Insurance Exchange Building is not, however, a major priority of the Custom House National Register District.

In the same way that the existing buildings and street patterns block the view of the proposed connector from the significant historic building in the Custom House District, they block the intrusion of connector on the vistas of the historic buildings. Figures 8, 9, and 10 are taken from various locations on India Street and show the limited visual

impact of the connector on these historic buildings. The State Street Block Building is not shown since it cannot be seen from India Street at an angle in which the connector is visible.

Conceptually the connector between the Custom House and the Board of Trade Building changes the historic appearance of the exterior of these buildings and the relationship of the buildings to each other. A horizontal connector spanning India Street will alter the appearance of this historic thoroughfare and the historic buildings will no longer be visually or functionally independent. Realistic assessment of the preservation mandate for the Custom House, however, reveals that the requirement of the construction of the connector is imperative. Past reuse efforts for the Custom House, using only the space within the existing structure have been unsuccessful. If the Custom House's long-term preservation is to be assured, functional supplementary space is necessary.

Practical assessment of the physical impact of the construction of the connector on the historic buildings further reveals that its design meets current preservation standards as adequately as is possible for an above ground structure. The design of the connector is candidly contemporary. The scale of the design of the connector and the materials proposed for its construction purposely attempt to minimize its impact on the historic buildings and streetscape. In addition, its construction is essentially reversible. Removal of the proposed steel and glass structures would return the buildings and India Street to their current appearance.

III. EXTERIOR CHANGES TO THE CUSTOM HOUSE

The proposed exterior changes to the Custom House fall into three categories:

- window repair and replacement

- door replacement
- masonry cleaning and repair

In the Secretary of the Interior's Standards windows and doors are grouped together. Recommended treatment includes:

> Retaining and repairing window and door openings, frames, sash, glass, doors, lintels, sills, pediments, architraves, hardware, awnings and shutters where they contribute to the architectural and historic character of the building.

The proposed work to the Custom House windows will improve their historic integrity. Foremost, all of the fine c. 1915 Kalomein windows in the Tower - wooden sash encased in copper - are to be preserved. The c. 1950 windows in the c. 1847 portion of the building, that are deteriorated and stylistically incorrect will be replaced. The new windows will be made of wood and designed to match the sash in these windows at the time of the construction of the Tower. The c. 1915 windows were eight-over-eight sash with unusually thick center vertical and horizontal muntins. This sash is shown in the windows prior to the construction of the Tower and may date to c. 1847. The historic sash was operable, the modern sash will be fixed.

The modern basement window grates will be replaced with grates of the 1915 Peabody and Stearns design. Their repair and replacement will more nearly restore the exterior of the Custom House to its c. 1915 appearance.

The reopening of the nineteenth century windows in the north pediment is a change that proposes to return this portion of the building to its pre-Tower appearance. In general, prudent preservation practice does not recommend inconsistent dates for the restoration of architectural elements. Reopening the pediment windows, however, will not significantly alter the architectural or historic character of the exterior of the building. And it will allow a sizable interior space, abandoned after the Peabody and

Stearns remodelling, to again be used. The asymmetry of the north pediment windows in the original design of the building is also architecturally of interest. Their restoration will surely be noted by architectural historians and will contribute to the interpretation of the architectural evolution of the Custom House. The design of the north pediment windows will be based upon the windows shown in the historic photographs. The modern windows will be inoperable.

The existing street level entrance doors at State and Central Streets, will be replaced with doors matching the design of Peabody and Stearns. These doors will further contribute to the restoration of the c. 1915 appearance of the Custom House.

The Boston Landmarks Commission General Standards and Criteria for windows and doors are similar to those of the Secretary of the Interior. They read as follows:

WINDOWS AND DOORS

- Retain original and later integral door and window openings where they exist. Do not enlarge or reduce door and window openings for the purpose of fitting stock window sash or doors, or air conditioners.

- Whenever possible, repair and retain original or later integral window elements such as sash, lintels, sills, architraves, glass, shutters and other decorations and hardware. When replacement of materials or elements is necessary, it should be based on physical or documentary evidence.

- On some properties consideration will be given to changing from the original window details to other expressions such as to a minimal anonymous treatment by the use of a single light, when consideration of cost, energy conservation or appropriateness override the desire for historical accuracy. In such cases, consideration must be given to the resulting effect on the interior as well as the exterior of the building.

The specific standards and criteria for the Custom House windows and doors read as follows:

WINDOWS:

- Copper-clad six-over-six light windows exist under the porticos facing India Street and McKinley Square. These windows (which appear to date from the Peabody and Stearns work on the building) shall be retained and repaired. Since these windows are metal-clad, metal replacement windows for other window openings are acceptable, provided they have through muntins and duplicate as closely as possible the configuration, profile, recess, and color of the copper-clad windows. Replacements may also be wood-constructed with a through-muntin assembly, with paint color to match the existing six-over-six or the condition on the upper elevations. Particular attention should be directed to recreating the framing sections and matching the finish in color. Another acceptable option is replication of the original (1837-47) window unit configuration for that portion of the building, based on documentary evidence. Young's architectural renderings indicate double-hung eight-over-eight sash. No tinted or reflective-coated glass shall be allowed.

- Replacement of the metal factory sash (dating to 1950) in the 1837 portion of the building is encouraged.

- Awnings over window openings are not allowed.

- Existing basement level windows date from the 1916 alterations to the building and should be retained.

- Removal of the mesh grilles over the basement windows is encouraged.

ENTRANCES (DOORS)

- The elaborate doors within the porticos at the McKinley Square and India Street entrances should be cleaned and preserved. The contemporary oak doors at the flanking street-level entrances and the airlocks may be replaced. The design and materials of replacement doors should relate to classically-inspired detailing elsewhere within the building.

- An appropriate handicap access through the street-level entrance facing Central Street is recommended.

As described above, the proposed window repairs meet the general and specific standards and criteria for the Custom House windows. The existing window openings will not be altered. The copper-clad wood windows in the Tower will be preserved. The deteriorated c. 1950 windows in the 1847 portion of the building will be replaced. The design of the new windows will be based upon photographic documentation. The existing basement windows will be retained and repaired. The modern mesh basement window grilles will be replaced with grilles matching the original Peabody and Stearn's design.

The proposed repair and cleaning of the exterior masonry of the Custom House represent standard preservation practice for a 90-150 year old granite structure. The exterior surfaces of the building will be cleaned. Cleaning will be done according to accepted conservation practice. Dilutions of cleaners will be as weak as possible to accomplish satisfactory cleaning results. Sample cleaning areas will be prepared for approval by the Boston Landmarks Commission, prior to commencing work. The entire exterior of the Custom House will be repointed. Little original pointing survives on the Custom House and the application of a modern caulk over the existing repointing make partial repointing impractical. The proposed repointing will match the c. 1915 repointing in color, texture and joint profile. A sample of repointing will be prepared for approval by the Boston Landmark Commission, prior to commencing work. Cracked and broken granite will be replaced with granite that matches the original in color, texture and surface tooling. No water repellent or consolidation treatments are proposed for the exterior of the Custom House.

The recommended treatment for exterior masonry in the Secretary of Interior standards are as follows:

- Retaining original masonry and mortar, whenever possible, without the application of any surface treatment.

- Repointing only those mortar joints where there is evidence of moisture problems or when sufficient mortar is missing to allow water to stand in the mortar joint.

- Duplicating old mortar in composition, color, and texture.

- Duplicating old mortar in joint size, method of application, and joint profile.

- Cleaning masonry only when necessary to halt deterioration or to remove graffiti and stains and always with the gentlest method possible, such as lower pressure water and soft nature bristle brushes.

- Repairing or replacing, where necessary, deteriorated material with new material that duplicates the old as closely as possible.

The proposed treatment for the exterior masonry of the Custom House meets these standards. The repointing, however, will not be only of mortar joints allowing water penetration. The cracked and eroded caulk applied over the mortar makes partial repointing aesthetically and practically infeasible.

The general BLC standards and criteria for exterior masonry walls mirror the Secretary of the Interior's standards. They read as follows:

MASONRY

- Retain whenever possible, original masonry and mortar.

- Duplicate original mortar in composition, color, texture, joint size, joint profile and method of application.

- Repair and replace deteriorated masonry with material which matches as closely as possible.

- When necessary to clean masonry, use gentlest method possible. Do not sandblast. Doing so changes the visual quality of the material and accelerates deterioration. Test patches should always be carried out well in advance of cleaning (including exposure to all seasons if possible).

- Avoid applying waterproofing or water repellent coating to masonry, unless required to solve a specific problem. Such coatings can accelerate deterioration.

- In general, do not paint masonry surfaces. Painting masonry surfaces will be considered only when there is documentary evidence that this treatment was used at some point in the history of the property.

The specific BLC standards and criteria for the exterior masonry of the Custom House, although worded slightly differently, have the same treatment requirements as the general standards and criteria. They read as follows:

- Original masonry and mortar shall be retained whenever possible.

- Original mortar shall be duplicated in composition, color, texture, joint size, joint profile and method of application.

- Deteriorated masonry shall be repaired and replaced with material which matches as closely as possible.

- When necessary to clean masonry, the gentlest method possible shall be used. Sandblasting is prohibited. Test patches should always be conducted and examined through a full set of seasons prior to cleaning.

- Waterproofing or water repellent coating shall not be applied to masonry, unless required to solve a specific problem, since such coatings can accelerate deterioration.
- Masonry surfaces shall not be painted.

These standards and criteria are met by the proposed repair and cleaning of the exterior masonry of the Custom House.

IV. CHANGES TO THE EXTERIOR OF THE BOARD OF TRADE BUILDING

The two principal changes proposed to the exterior of the Board of Trade Building are:

- The two-story glass addition on the center of the east (India Street) elevation.
- The three-story brick, limestone, glass and metal addition to the top of the building.

The two-story glass enclosure will cover the east elevation's triple arched entry and two bays on either side of the arches. Its roofline will be below the balustrade above the arched entry. The connector to the Custom House enters the enclosure at the south end of its second story. The enclosure will be constructed of the same glass and steel materials as the connector and will read, architecturally, as one structure.

The three-story brick, limestone, glass and metal addition to the top of the Board of Trade Building covers its entire footprint. The footings for the building require the uniform distribution of any addition to the top of the building. Therefore, a stepped addition or an addition to only part of the building is not structurally possible. The first two stories of the addition are constructed with brick. A paired window pattern reflects but does not copy the fenestration of the original building. The first two stories of the addition are capped by a course of limestone block, mirroring the use of this stone in

the original building's cornice. The glass and metal third story, reflect the cornice's copper cresting. (Figure 11)

The Board of Trade Building is not a designated Boston Landmark, therefore there are no general and specific BLC standards and criteria that apply to this building. It is, however, being evaluated under the BLC's accelerated review process. The Board of Trade Building, however, is in the Custom House National Register District and is clearly a historic building that merits sensitive architectural alteration. For purposes of this report, the proposed alterations will be assessed by the Secretary of the Interior's Standards. These standards are very similar to the General Standards and Criteria of the Boston Landmarks Commission and for an undesignated building should provide adequate guidelines for assessment of proposed architectural changes.

Both of the proposed changes to the exterior of the Board of Trade Building are new construction. The Secretary of Interior's Standards state the following about contemporary alterations and additions:

- Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

- Whenever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

The two-story glass enclosure proposed for the east elevation of the Board of Trade Building covers over but does not destroy significant historical, architectural or cultural material. The exterior walls of the building inside the enclosure will not be altered. Only the entry doors will be removed. These doors will be stored so that they can be reinstalled, should the building ever be restored to its current appearance. The

attachment of the enclosure to the building is designed to minimize stone damage. No anchoring will be done to the carved stone. Any stone removed for the construction of the enclosure will be labelled and stored for reuse.

The compatibility of the enclosure to the Board of Trade Building in size, scale, color, material and character of the property, neighborhood or environment is the preservation issue. The size and scale of the enclosure have been reduced from their original design to the minimal size required to accomplish its function of guest reception and providing access to the connector. The color and materials selected for the enclosure are designed to be contemporary, and to minimize their impact on the building and the India streetscape. They are also the same materials that are proposed for the connector, so that they will read as one rather than two structures.

The effect of the enclosure on the property is undeniable. The first two stories of the center of the building will be covered over by a glass and metal structure. Its impact is mitigated by the fact that none of the original wall will be removed and it will be visible inside the enclosure. Nonetheless, the enclosure will be there. Examples of similar enclosures can be found in the immediate neighborhood. At Quincy Market, glass and steel structures enclosing exposed historic masonry walls are found. On these buildings new use space needs justified the construction of the glass and steel additions on important historic buildings.

As with the Custom House, the visual impact of the steel and glass enclosure proposed for the east elevation of the Board of Trade Building is greater than its physical impact. The restrained symmetry of the east facade of the building will be changed by the construction of the enclosure. People entering the building will no longer pass through arched openings that penetrate into the building, but will enter through a clearly modern structure that projects from the building. Rather than bordering McKinley

Square, the Board of Trade Building will now extend into the square. With the construction of the enclosure and the connector, the Board of Trade Building will cease to function as an independent structure. The enclosure will clearly convey the architectural message that two historic buildings, formerly used for offices, have been joined for use as a modern hotel.

As with the connector, the construction of the glass and steel addition to the east elevation of the Board of Trade Building significantly changes India Street. It necessarily narrows the street and the Boston Board of Transportation Department will require that traffic become one-way, as it presently is from Central Street to the Central Artery. It also changes the street's sight lines, partially blocking the view of some of the existing buildings. The blocked buildings are not primary historic buildings. It is the view from State Street of the lower floors of the Insurance Exchange Building that will be most altered.

These changes to India Street, while they do alter its historic appearance and function, nonetheless, give it a more pedestrian-oriented scale. At present, the west side of McKinley Square functions as a street/parking lot. The Custom House stands in the center of the Square, isolated from the surrounding streets and buildings. Pedestrian access to the Custom House is chaotic. The construction of the connector will clearly reestablish access to the Custom House from India Street and the west end of State Street.

The three-story brick, limestone, glass and metal addition to the top of the Board of Trade Building does not alter significant historical, architectural or cultural material. The existing roof on the Board of Trade Building, which will be covered over, is flat and not visible from the street. The historic copper roof cresting will be preserved. The design of the proposed addition is also compatible with the character of the

existing structure. The scale and size of the addition are stylistically appropriate for a Renaissance Revival building. It is clearly a modern addition, but is reflective of the layered, horizontally defined facades of turn of the century classical revival buildings. The materials proposed for the addition are those of the original Board of Trade Building - brick, limestone, glass and metal.

The effect of the addition on the environment, defined as the buildings surrounding the Board of Trade Building, is minimal. It increases the height of the building by three stories. However, this increase in height does not significantly change the relationship of the Board of Trade Building in size and scale to the surrounding buildings, nor does it change the views of the surrounding buildings from the nearby streets.

V. CUSTOM HOUSE INTERIOR - LANDMARK DESIGNATED SPACES

The proposed alterations to the interior landmark designated spaces of the Custom House are designed to preserve the significant architectural fabric, while meeting code and use requirements for a modern hotel. The alterations evaluated nearly all have to do with movement through the building: the addition of a shuttle elevator, the construction of a new stair, changing the swing of doors and the replacement of the stylistically incorrect Rotunda vestibule doors and elevator doors. The specific alterations include:

Basement through Third Floor

- The addition of shuttle elevator door openings in the Rotunda. Door openings to match the existing openings.
- The replacement of the existing c. 1950 elevator fronts. Active openings will be reduced from four to two. Design of the replacement elevator fronts will replicate the Peabody and Stearns design.
- The replacement Rotunda doors that are not original to the Peabody and Stearns remodelling. Replacement doors will match the Peabody and Stearns design. (The swing on some of the doors may be changed.)

First Floor

- The addition of three openings in the west side of the north vestibule and glaze the openings. Glaze the existing three openings on the east side.
- The relocation of all doors in the east vestibule so that the fire stair meets code.
- The addition of two new doors in the east vestibule for egress.

Second Floor

- The change of the swing of the following doors:
    - southeast rotunda door,
    - south room, north wall, east door, and
    - the removal of the west door in the north vestibule.

Third Floor

- The change of the swing of the following doors:
    - north vestibule - east, west, and east door in north wall.
- The construction of a new stair in the northwest corner of the building from the third floor to the attic level.

The Secretary of the Interior standards recommend the following treatment for architecturally significant historic interiors:

> Retaining original material, architectural features, and hardware, wherever possible, such as stairs, elevators, hand rails, balusters, ornamental columns, cornices, baseboards, doors, doorways, windows, mantel pieces, paneling, lighting fixtures, parquet or mosaic flooring.
>
> Repairing or replacing, where necessary, deteriorated material with new material that duplicates the old as closely as possible.
>
> Retaining original plaster, whenever possible.
>
> Discovering and retaining original paint colors, wallpapers and other decorative motifs, or, where necessary, replacing them with colors, wallpapers or decorative motifs based on the original.
>
> Where required by code, enclosing an important interior stairway in such a way as to retain its character. In many cases glazed fire walls may be used.

Retaining the basic plan of a building, the relationship and size of rooms, corridors, and other spaces.

The Boston Landmarks Commission has no General Standards and Criteria for historic interiors. The specific standards and criteria for the designated interior spaces of the Custom House read as follows:

- The designation applies to the street-level lobby with its vaulted passages and to the full rotunda space and flanking passageways on the upper floors within the original 1837 building.
- The ceiling vaulting of the street level lobby shall be maintained.
- The volume of the rotunda space shall not be interrupted, and all service elements should be located within the street-level space. The design of such installations should reinforce the style of the building or be of a restrained contemporary design.
- No original material surface covering shall be removed. The marble flooring tiles shall be preserved and not covered permanently. The granite or marble surfaces shall not be painted.
- Cleaning of the marble is not encouraged. If necessary, it should occur with professional supervision and only after careful evaluation of a sample test patch.
- The installation of replacement lighting fixtures of a more traditional design is encouraged. No exposed conduit shall be allowed. Suspended fixtures and wall sconces are preferable to ceiling-mounted fixtures.
- Relocation of the exposed sprinkler system is recommended.
- Restoration of the decorative cast metal elevator door surrounds is recommended.
- Replacement of the contemporary flush metal elevator doors is recommended.
- The decorative iron stair rails (now painted) on the upper levels of the rotunda should be restored to their original finish based on professional conservation practices.
- Interior illumination of the dome should be achieved with inconspicuous fixtures.

- Signs should be respectful of the design elements within the rotunda; contemporary typeface and plastic signs are discouraged.

The general recommendations of the Secretary of the Interior's standards are met by the proposed work. The plan of the three floors with designated interior spaces will not be altered. These spaces will be given new uses identified on the attached drawings. These new uses do not require changes in the room plans. Nearly all of the original (surviving 1847 and 1915) architectural fabric will be preserved. The shuttle elevator doors that will be added to the Rotunda will be built into the existing marble door frames. These frames are presently filled with marble block that will be removed. The shuttle elevator doors will be designed to match the existing doors in the Rotunda. The active elevators will be reduced from two to four and their c. 1950 elevator fronts replaced. The Peabody and Stearns elevator fronts were "accordion type doors" and will not meet current code. Therefore, the design of the replacement fronts will be based upon the pattern of the Rotunda grillework. The addition of three glazed openings in the west side of the north vestibule represents the most radical interior change proposed. This change creates a symmetry with the glazed openings on the east side of the north vestibule and does not affect the appearance of the space adversely. Changing the swing of multiple doors also has negligible affect on the appearance and function of the interior spaces. The construction of the stair in the northeast corner of the building above the third floor similarly has no detrimental impact on the designated interior spaces of the Custom House.

Most of the Boston Landmarks Commission specific standards and criteria for the interior of the Custom House do not apply to the proposed work. The requirement that no original material surface covering be removed will be breached by the construction of the shuttle elevator and by the construction of the glazed openings in the west wall of the north vestibule. The replication of an existing Rotunda door for the shuttle elevator door minimizes the visual impact of this change. The symmetry of

the east and west glazed openings readily blends this change with the existing architectural fabric. Nonetheless, these changes do remove original material surface covering.

The recommendation that the contemporary metal elevator doors and the restoration of the cast metal elevator door surrounds will be included in the proposed work. As described above, an adaptive design, rather than the c. 1915 design, will have to be used for the elevator doors.

Additional interior design issues will be reviewed as the scope of work for the interior restoration of the Custom House is developed. If critical preservation issues arise, they will be addressed in an addendum to this report.

VI. SUMMARY

The construction of the connector between the Custom House and the Board of Trade Building is the most significant alteration proposed for these historic structures. Assessing the impact of its construction necessitates acknowledging that the preservation of the Custom House requires providing additional space for successful reuse. A modern addition to the Custom House is precluded by preservation restrictions and underground construction is not structurally or economically feasible. Therefore, joining the Custom House to the Board of Trade Building represents a practical and acceptable preservation design solution.

The above ground connector required to join the buildings will necessarily have a significant visual impact on the Custom House, the Board of Trade Building and India Street. Its impact can, and has been, minimized by strict adherence to preservation guidelines in its design. Nonetheless, its visual presence remains. The visual effect of

the connector, however, is outweighed by the fundamental preservation objective for the Custom House - an economically feasible reuse - and therefore must be judged an acceptable preservation design. Without the connector, the long-term preservation of the Custom House is in jeopardy.

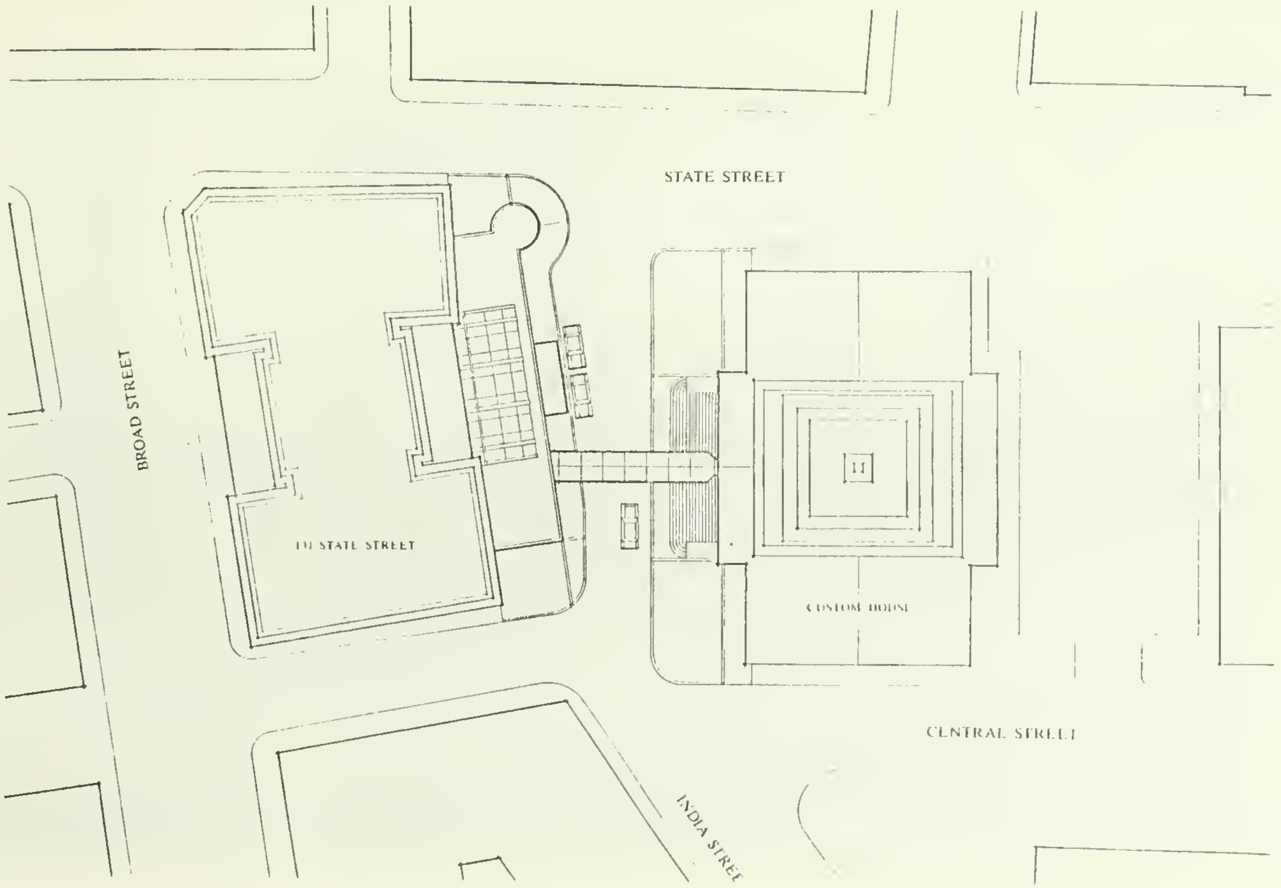


Figure 1: Proposed connector between the Custom House and the Board of Trade Building.
Site Plan

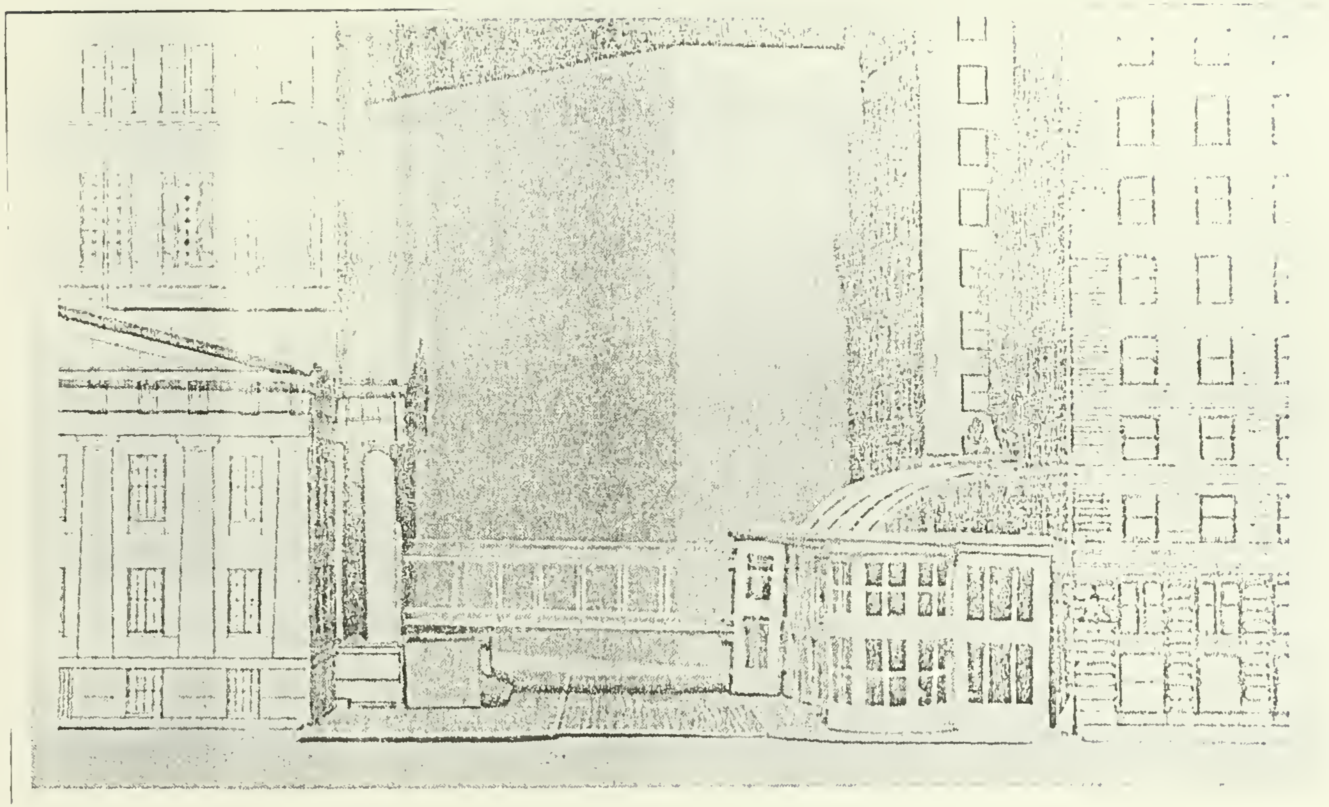


Figure 2: Proposed connector between the Custom House and the Board of Trade Building. Eye level view from State Street.

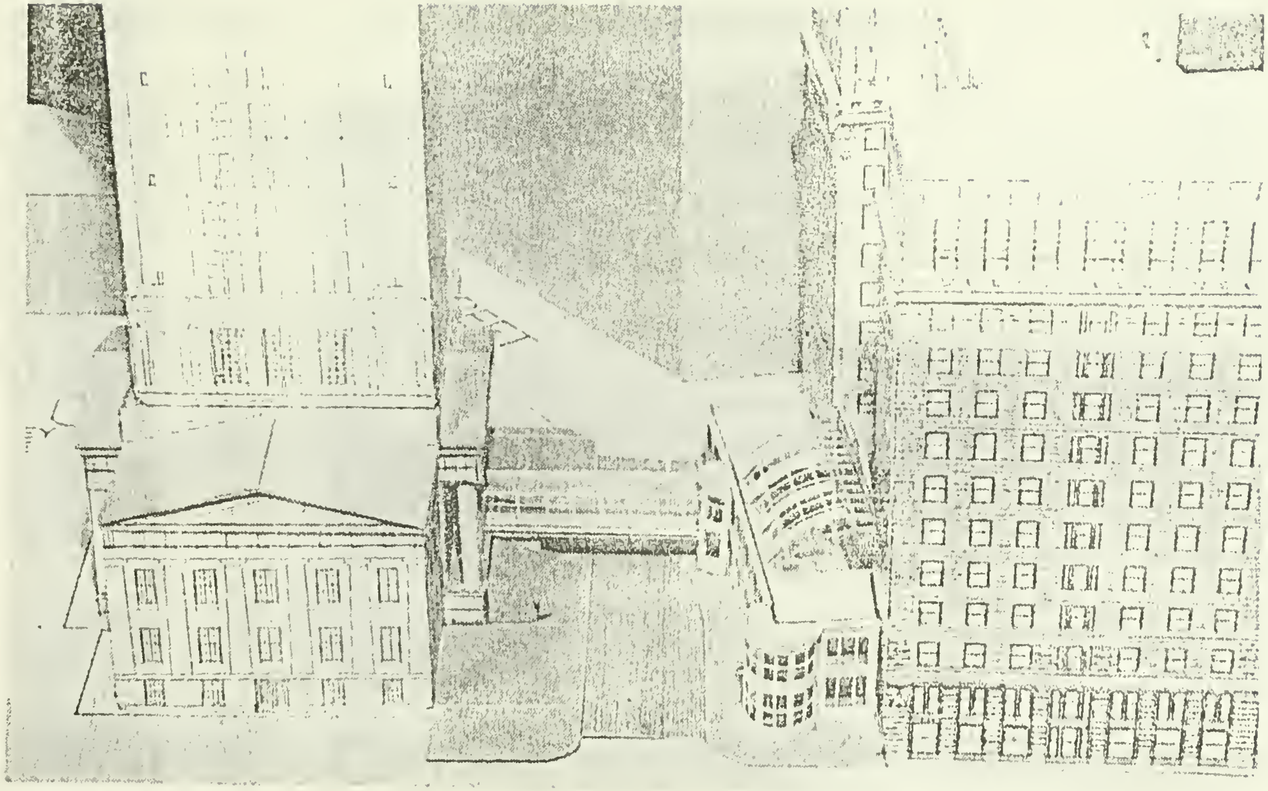


Figure 3: Proposed connector between the Custom House and the Board of Trade Building. Aerial view from State Street.

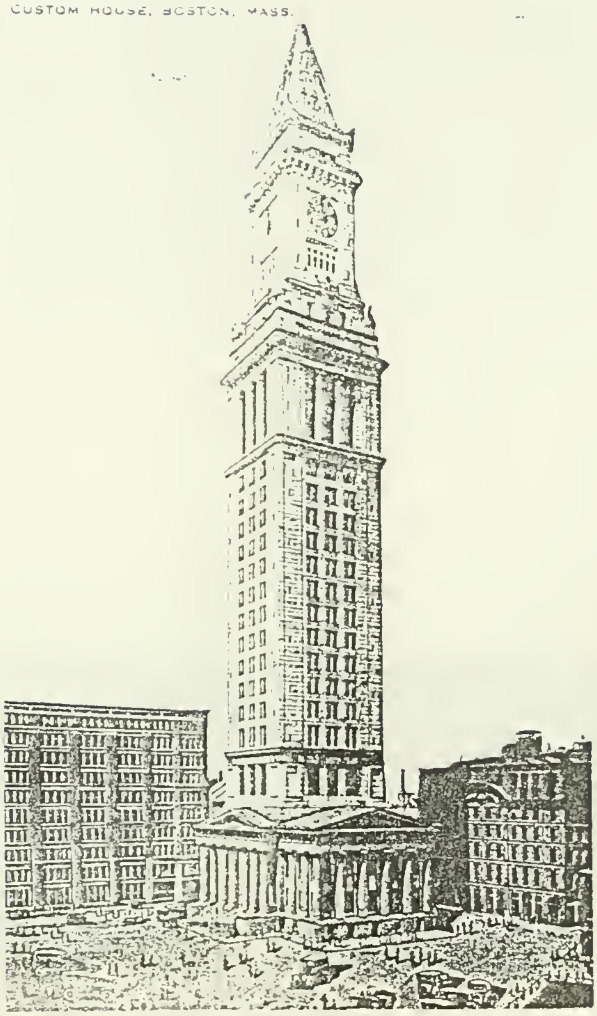


Figure 4: West side of McKinley Square, c. 1920.
Photograph courtesy of the SPNEA Archives.

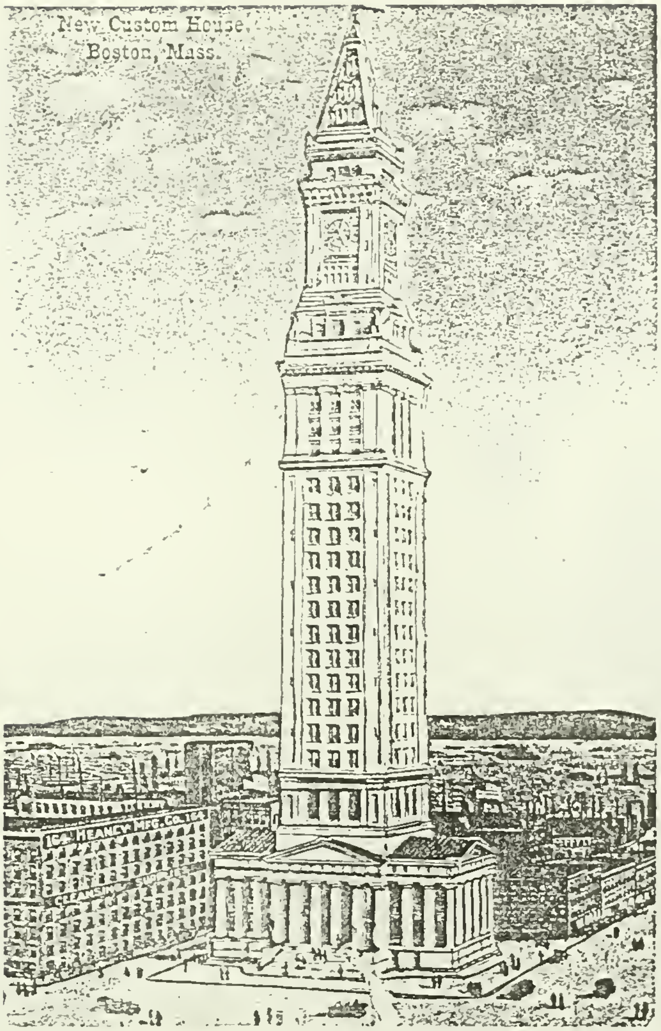

New Custom House,
Boston, Mass.
HEANEY MFG. CO.

Figure 5: West and south sides of McKinley Square, c. 1920.
Photograph courtesy of the SPNEA Archives.

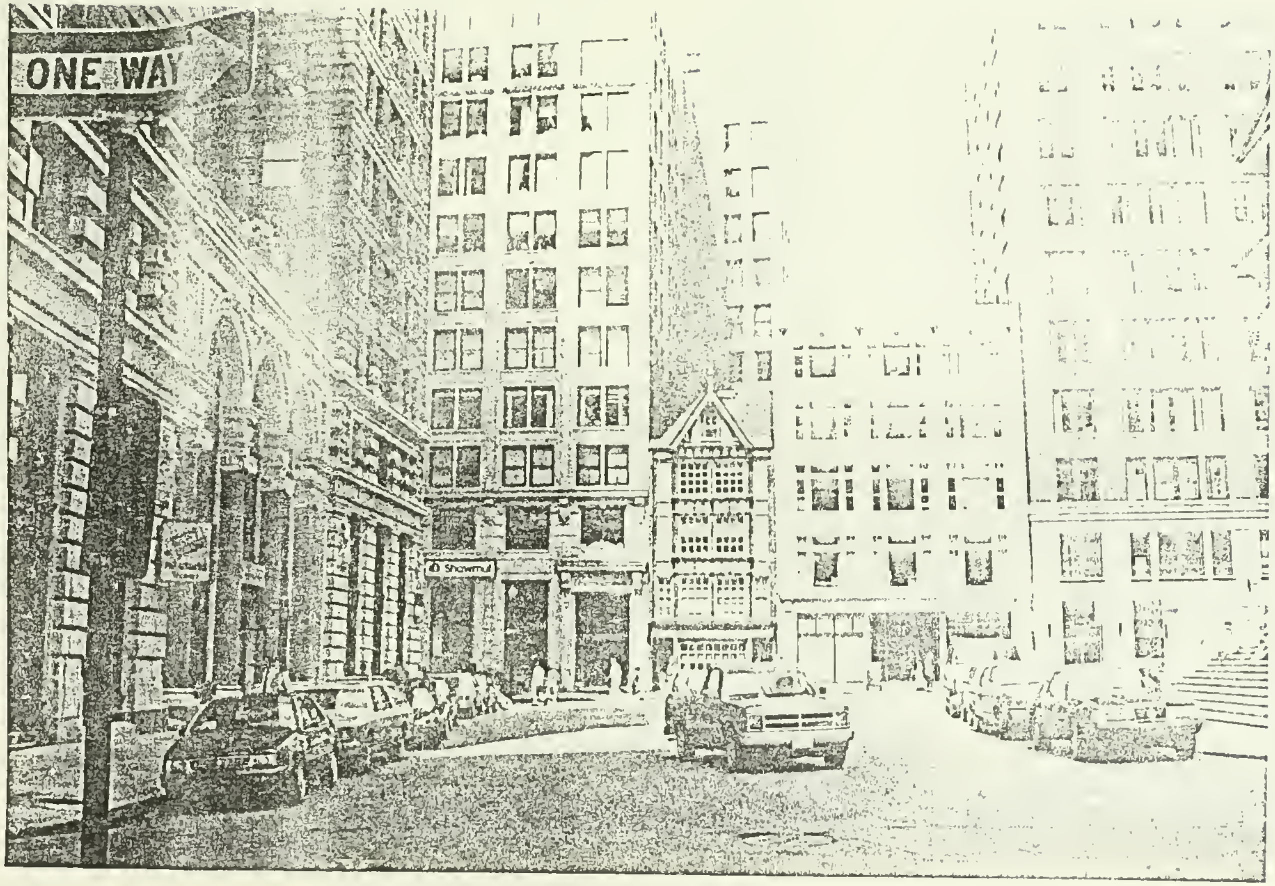


Figure 6: Current view looking north up India Street toward State Street.

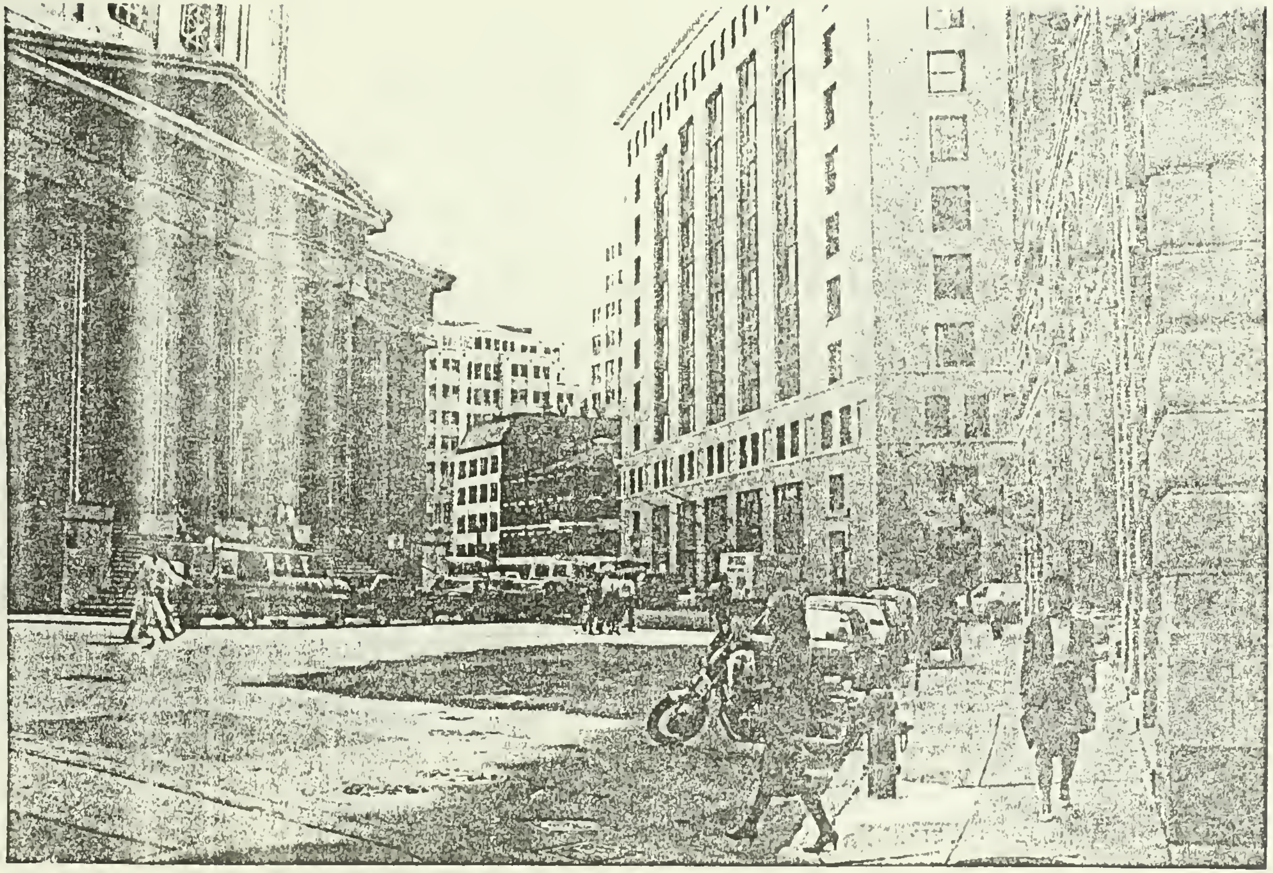


Figure 7: Current view looking south down India Street from State Street.

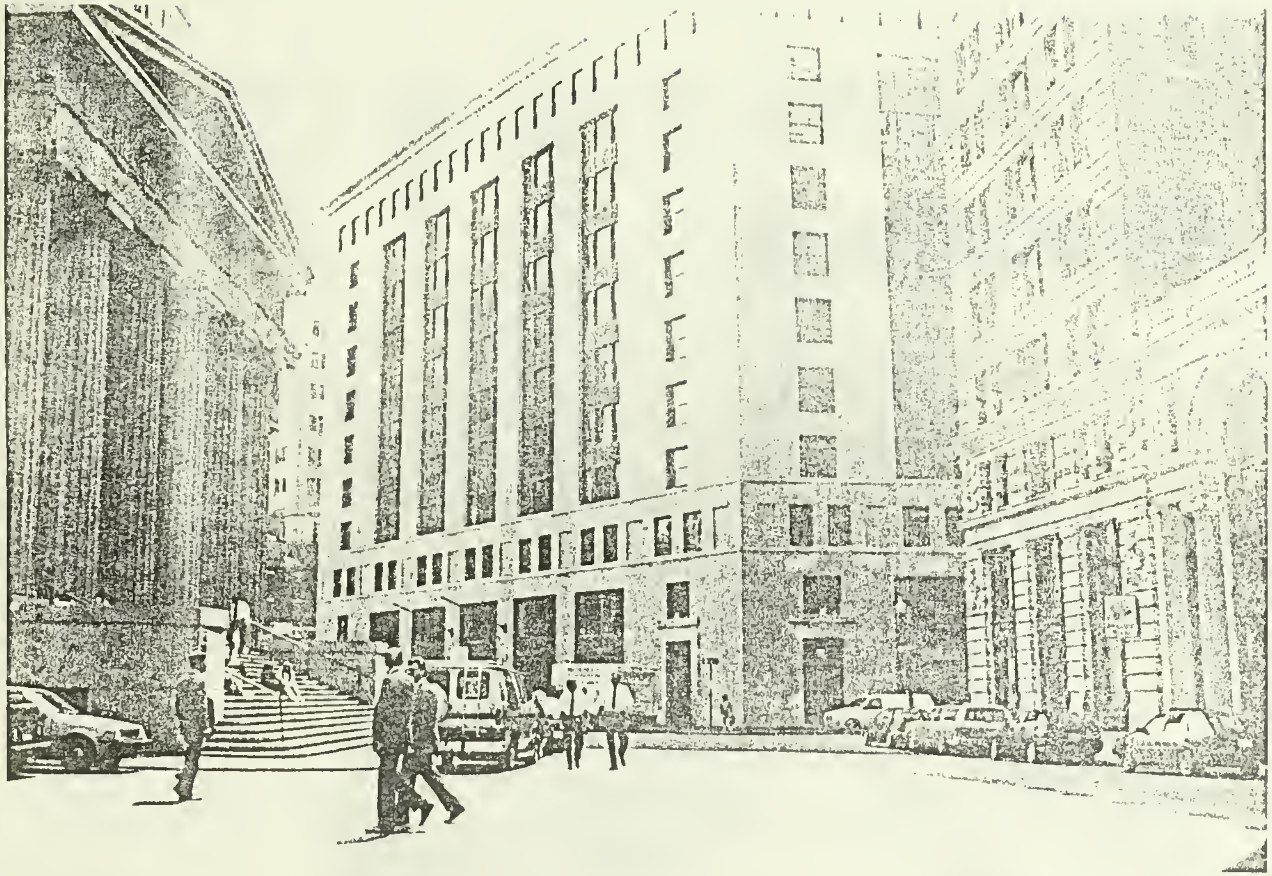


Figure 8: Current view looking south down India Street from State Street. The Insurance Exchange Building is the center building in the photograph.

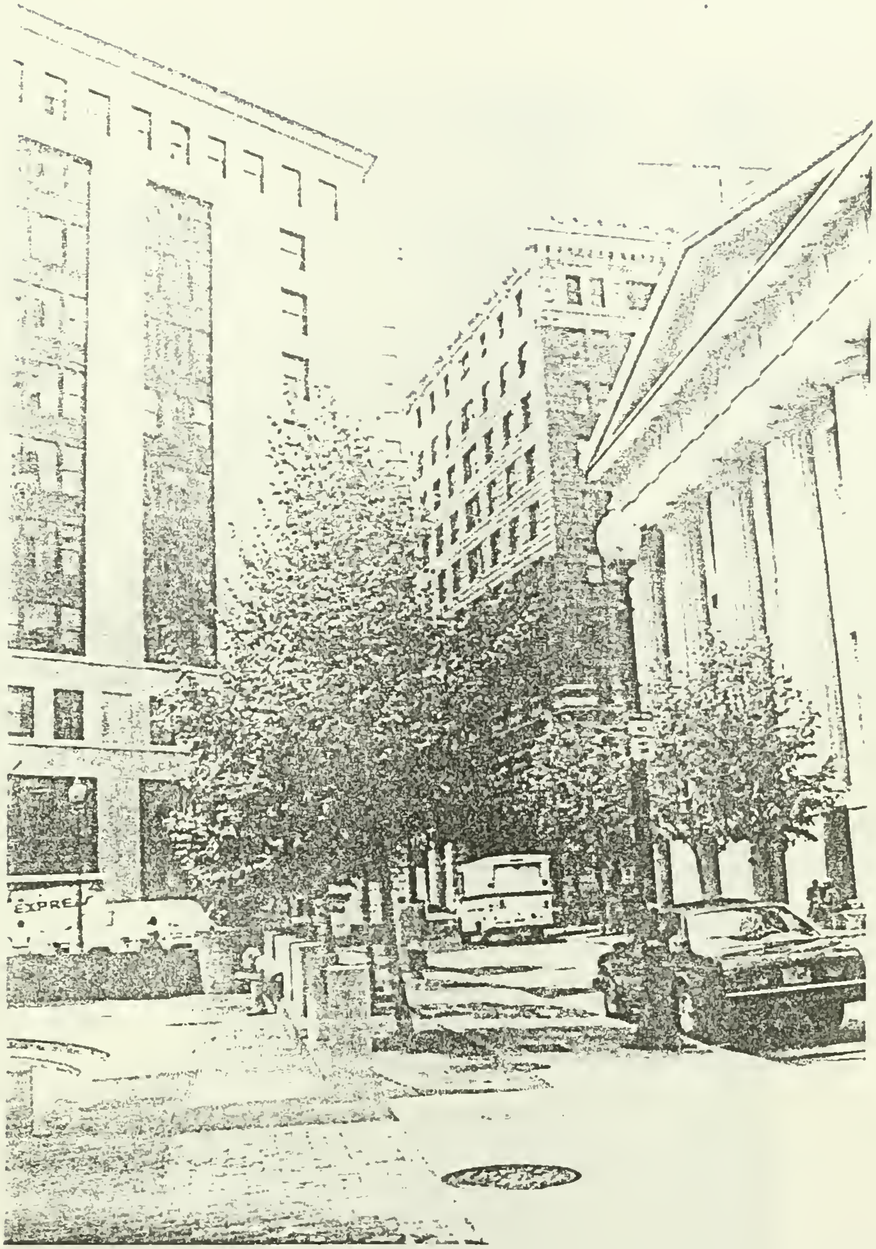


Figure 9: Current view of the Custom House and the Board of Trade Building from the west end of Central Wharf.

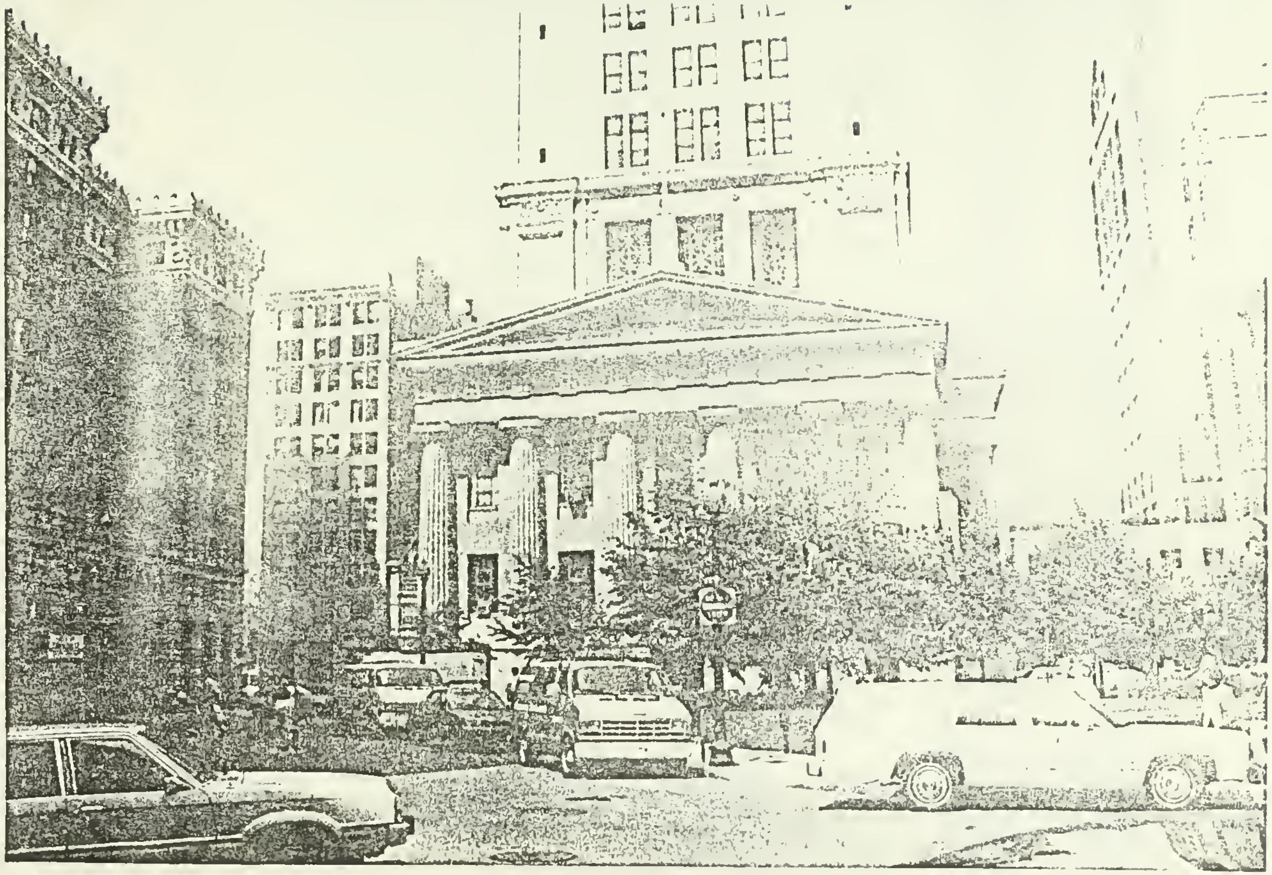
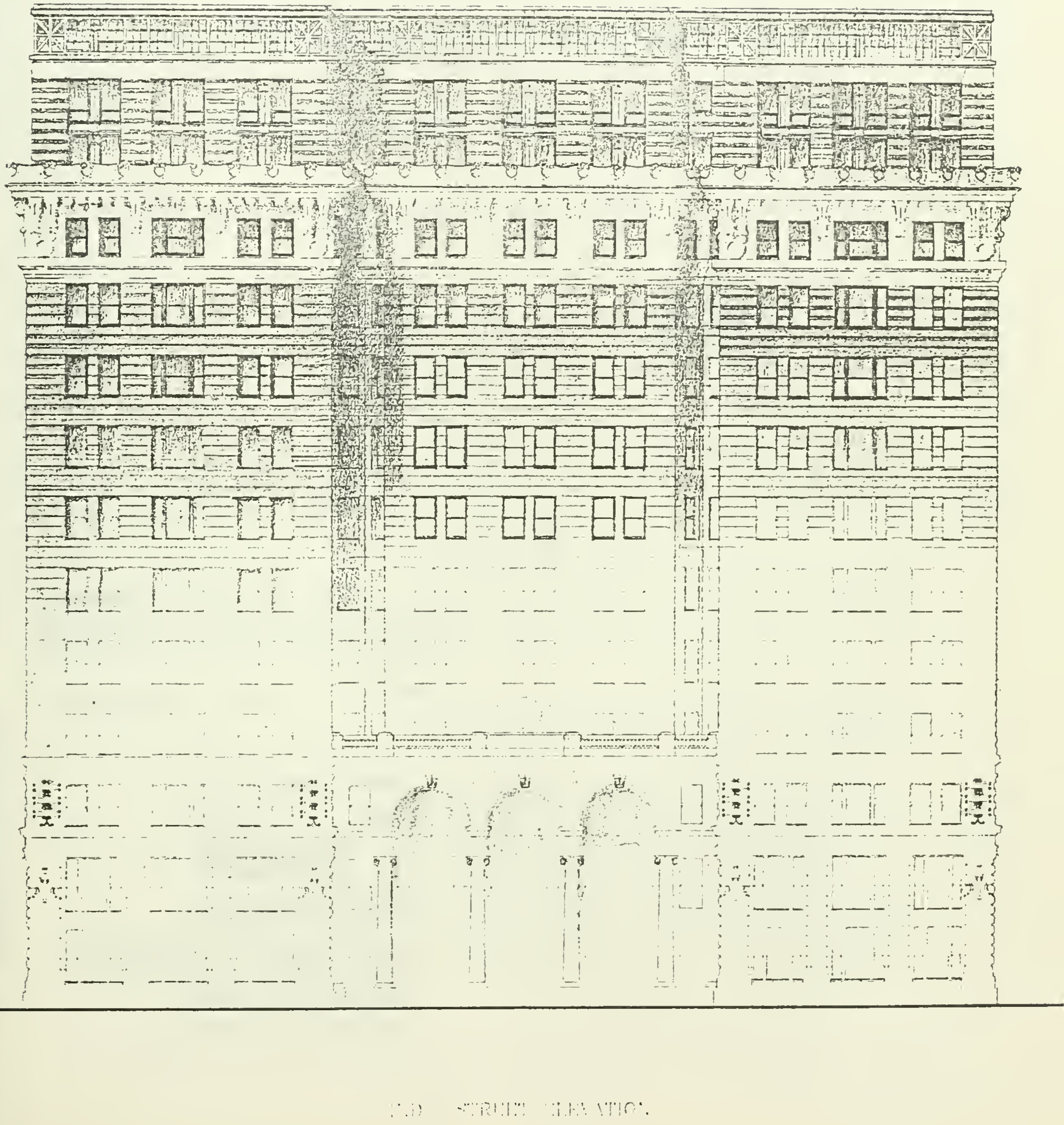


Figure 10: Current view of the Custom House and the Board of Trade Building from in front of the west entrance to the Grain and Flour Exchange Building.

Figure 11: Rendering of proposed three-story addition to the Board of Trade Building.



U.S. Department
of the Interior

National Park Service

THE SECRETARY OF THE INTERIOR'S

STANDARDS FOR REHABILITATION

and Guidelines for Rehabilitating Historic Buildings

Reprinted April, 1982
Department of the State Secretary
Massachusetts Historical Commission

Michael Joseph Connolly, Chairman

MASSACHUSETTS
HISTORICAL
COMMISSION

"Rehabilitation means the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

The following "Standards for Rehabilitation" shall be used by the Secretary of the Interior when determining if a rehabilitation project qualifies as "certified rehabilitation" pursuant to the Tax Reform Act of 1976, the Revenue Act of 1978, and the Economic Recovery Tax Act of 1981. These standards are a section of the Secretary's "Standards for Historic Preservation Projects" and appear in Title 36 of the Code of Federal Regulations, Part 67 (formerly 36 CFR Part 1208).

1. Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.

2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier appearance shall be discouraged.

4. Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

5. Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity.

6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

8. Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to any project.

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

GUIDELINES FOR APPLYING THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The following guidelines are designed to help individual property owners formulate plans for the rehabilitation, preservation, and continued use of historic buildings consistent with the intent of the Secretary of the Interior's "Standards for Rehabilitation." The guidelines pertain to buildings of all occupancy and construction types, sizes, and materials. They apply to permanent and temporary construction on the exterior and interior of historic buildings as well as new attached or adjacent construction.

Techniques, treatments, and methods consistent with the Secretary's "Standards for Rehabilitation" are listed in the "recommended" column on the left. Not all recommendations listed under a treatment will apply to each project proposal. Rehabilitation approaches, materials, and methods which may adversely affect a building's architectural and historic qualities are listed in the "not recommended" column on the right. Every effort will be made to update and expand the guidelines as additional techniques and treatments become known.

Specific information on rehabilitation and preservation technology may be obtained by writing to the Technical Preservation Services Division, National Park Service, U.S. Department of the Interior, Washington, D.C. 20240, or the appropriate State Historic Preservation Officer. Advice should also be sought from qualified professionals, including architects, architectural historians, and archeologists skilled in the preservation, restoration, and rehabilitation of old buildings.

THE ENVIRONMENT

Recommended	Not Recommended
Retaining distinctive features such as the size, scale, mass, color, and materials of buildings, including roofs, porches, and stairways that give a neighborhood its distinguishing character.	Introducing new construction into neighborhoods that is incompatible with the character of the district because of size, scale, color, and materials.
Retaining landscape features such as parks, gardens, street lights, signs, benches, walkways, streets, alleys and building setbacks that have traditionally linked buildings to their environment.	Destroying the relationship of buildings and their environment by widening existing streets, changing paving material, or by introducing inappropriately located new streets and parking lots that are incompatible with the character of the neighborhood.
Using new plant materials, fencing, walkways, street lights, signs, and benches that are compatible with the character of the neighborhood in size, scale, material and color.	Introducing signs, street lighting, benches, new plant materials, fencing, walkways and paving materials that are out of scale or are inappropriate to the neighborhood.

BUILDING SITE

Recommended	Not Recommended
Identifying plants, trees, fencing, walkways, outbuildings, and other elements that might be an important part of the property's history and development.	
Retaining plants, trees, fencing, walkways, street lights, signs, and benches that reflect the property's history and development.	Making changes to the appearance of the site by removing old plants, trees fencing, walkways, outbuildings, and other elements before evaluating their importance in the property's history and development.
Basing decisions for new site work on actual knowledge of the past appearance of the property found in photographs, drawings, newspapers, and tax records. If changes are made they should be carefully evaluated in light of the past appearance of the site.	Leaving plant materials and trees in close proximity to the building that may be causing deterioration of the historic fabric.

BUILDING SITE—continued

Recommended	*Not Recommended*
Providing proper site and roof drainage to assure that water does not splash against building or foundation walls, nor drain toward the building.	

Archeological features

Recommended	*Not Recommended*
Leaving known archeological resources intact.	Installing underground utilities, pavements, and other modern features that disturb archeological resources.
Minimizing disturbance of terrain around the structure, thus reducing the possibility of destroying unknown archeological resources.	Introducing heavy machinery or equipment into areas where their presence may disturb archeological resources.
Arranging for an archeological survey of all terrain that must be disturbed during the rehabilitation program. The survey should be conducted by a professional archeologist.	

BUILDING: STRUCTURAL SYSTEMS

Recommended	*Not Recommended*
Recognizing the special problems inherent in the structural systems of historic buildings, especially where there are visible signs of cracking, deflection, or failure.	Disturbing existing foundations with new excavations that undermine the structural stability of the building.
Undertaking stabilization and repair of weakened structural members and systems.	Leaving known structural problems untreated that will cause continuing deterioration and will shorten the life of the structure.
Replacing historically important structural members only when necessary. Supplementing existing structural systems when damaged or inadequate.	

BUILDING: EXTERIOR FEATURES—continued

Masonry: Adobe, brick, stone, terra cotta, concrete, stucco and mortar

Recommended *	*Not Recommended*
Retaining original masonry and mortar, whenever possible, without the application of any surface treatment.	Applying waterproof or water repellent coatings or surface consolidation treatments unless required to solve a specific technical problem that has been studied and identified. Coatings are frequently unnecessary, expensive, and can accelerate deterioration of the masonry.
Repointing only those mortar joints where there is evidence of moisture problems or when sufficient mortar is missing to allow water to stand in the mortar joint.	Repointing mortar joints that do not need repointing. Using electric saws and hammers to remove mortar can seriously damage the adjacent brick.
Duplicating old mortar in composition, color, and texture.	Repointing with mortar of high Portland cement content can often create a bond that is stronger than the building material. This can cause deterioration as a result of the differing coefficient of expansion and the differing porosity of the material and the mortar.
Duplicating old mortar in joint size, method of application, and joint profile.	Repointing with mortar joints of a differing size or joint profile, texture or color.
Repairing stucco with a stucco mixture that duplicates the original as closely as possible in appearance and texture.	
Cleaning masonry only when necessary to halt deterioration or to remove graffiti and stains and always with the gentlest method possible, such as low pressure water and soft natural bristle brushes.	Sandblasting, including dry and wet grit and other abrasives, brick or stone surfaces; this method of cleaning erodes the surface of the material and accelerates deterioration. Using chemical cleaning products that would have an adverse chemical reaction with the masonry materials, i.e., acid on limestone or marble.

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* For more information consult Preservation Briefs: 1: "The Cleaning and Waterproof Coating of Masonry Buildings" and Preservation Briefs: 2: "Repointing Mortar Joints in Historic Brick Buildings" (Washington, D.C.: Heritage Conservation and Recreation Service, 1975 and 1976). Both are available from the Government Printing Office or State Historic Preservation Officers.

Masonry: Adobe, brick, stone, terra cotta, concrete, stucco and mortar

Recommended	*Not Recommended*
Repairing or replacing, where necessary, deteriorated material with new material that duplicates the old as closely as possible.	Applying new material which is inappropriate or was unavailable when the building was constructed, such as artificial brick siding, artificial cast stone or brick veneer.
Replacing missing significant architectural features, such as cornices, brackets, railings, and shutters.	Removing architectural features such as cornices, brackets, railings, shutters, window architraves, and doorway pediments.
Retaining the original or early color and texture of masonry surfaces, including early signage wherever possible. Brick or stone surfaces may have been painted or whitewashed for practical and aesthetic reasons.	Removing paint from masonry surfaces indiscriminately. This may subject the building to damage and change its appearance.

Wood: Clapboard, weatherboard, shingles and other wooden siding

Recommended	*Not Recommended*
Retaining and preserving significant architectural features, wherever possible.	Removing architectural features such as siding, cornices, brackets, window architraves, and doorway pediments. These are, in most cases, an essential part of a building's character and appearance that illustrate the continuity of growth and change.
Repairing or replacing, where necessary, deteriorated material that duplicates in size, shape, and texture the old as closely as possible.	Resurfacing frame buildings with new material that is inappropriate or was unavailable when the building was constructed such as artificial stone, brick veneer, asbestos or asphalt shingles, and plastic or aluminum siding. Such material can also contribute to the deterioration of the structure from moisture and insects.

Architectural Metals: Cast iron, steel, pressed tin, aluminum and zinc

Recommended	*Not Recommended*
Retaining original material, whenever possible.	Removing architectural features that are an essential part of a building's character and appearance, illustrating the continuity of growth and change.

BUILDING: EXTERIOR FEATURES—continued

Architectural Metals: Cast iron, steel, pressed tin, aluminum and zinc

Recommended	*Not Recommended*
Cleaning when necessary with the appropriate method. Metals should be cleaned by methods that do not abrade the surface.	Exposing metals which were intended to be protected from the environment. Do not use cleaning methods which alter the color, texture, and tone of the metal.

Roofs and Roofing

Recommended	*Not Recommended*
Preserving the original roof shape.	Changing the essential character of the roof by adding inappropriate features such as dormer windows, vents, or skylights.
Retaining the original roofing material, whenever possible.	Applying new roofing material that is inappropriate to the style and period of the building and neighborhood.
Providing adequate roof drainage and insuring that the roofing materials provide a weathertight covering for the structure.	
Replacing deteriorated roof coverings with new material that matches the old in composition, size, shape, color, and texture.	Replacing deteriorated roof coverings with new materials that differ to such an extent from the old in composition, size, shape, color, and texture that the appearance of the building is altered.
Preserving or replacing where necessary, all architectural features that give the roof its essential character, such as dormer windows, cupolas, cornices, brackets, chimneys, cresting, and weather vanes.	Stripping the roof of architectural features important to its character.

Windows and Doors

Recommended *	*Not Recommended*
Retaining and repairing window and door openings, frames, sash, glass, doors, lintels, sills, pediments, architraves, hardware, awnings and shutters where they contribute to the architectural and historic character of the building.	Introducing or changing the location or size of windows, doors, and other openings that alter the architectural and historic character of the building.

Windows and Doors

Recommended	*Not Recommended*
	Installing heating/air conditioning units in the window frames when the sash and frames may be damaged. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.

Storefronts

Recommended	*Not Recommended*
Retaining and repairing existing storefronts including windows, sash, doors, transoms, signage, and decorative features where such features contribute to the architectural and historic character of the building.	
Where original or early storefronts no longer exist or are too deteriorated to save, retaining the commercial character of the building through 1) contemporary design which is compatible with the scale, design, materials, color, and texture of the historic buildings; or 2) an accurate restoration of the storefront based on historical research and physical evidence.	Introducing a storefront or new design element on the ground floor, such as an arcade, which alters the architectural and historic character of the building and its relationship with the street or its setting or which causes destruction of significant historic fabric.
	Using materials which detract from the historic or architectural character of the building, such as mirrored glass.
	Altering the entrance through a significant storefront.

Entrances, porches, and steps

Recommended	*Not Recommended*
Retaining porches and steps that are appropriate to the building and its development. Porches or additions reflecting later architectural styles are often important to the building's historical integrity and, wherever possible, should be retained.	Removing or altering porches and steps that are appropriate to the building's development and style.

BUILDING: EXTERIOR FEATURES—continued

Entrances, porches, and steps

Recommended	*Not Recommended*
Repairing or replacing, where necessary, deteriorated architectural features of wood, iron, cast iron, terra cotta, tile, and brick.	Stripping porches and steps or original material and architectural features, such as hand rails, balusters, columns, brackets, and roof decoration of wood, iron, cast iron, terra cotta, tile and brick.
	Enclosing porches and steps in a manner that destroys their intended appearance.

Exterior Finishes

Recommended	*Not Recommended*
Discovering the historic paint colors and finishes of the structure and repainting with those colors to illustrate the distinctive character of the property.	Removing paint and finishes down to the bare surface; strong paint strippers whether chemical or mechanical can permanently damage the surface. Also, stripping obliterates evidence the historical paint finishes.
	Repainting with colors that cannot be documented through research and investigation to be appropriate to the building and neighborhood.

BUILDING: INTERIOR FEATURES

Recommended	*Not Recommended*
Retaining original material, architectural features, and hardware, whenever possible, such as stairs, elevators, hand rails, balusters, ornamental columns, cornices, baseboards, doors, doorways, windows, mantel pieces, paneling, lighting fixtures, parquet or mosaic flooring.	Removing original material, architectural features, and hardware, except where essential for safety or efficiency. Replacing interior doors and transoms without investigating alternative fire protection measures or possible code variances.
Repairing or replacing, where necessary, deteriorated material with new material that duplicates the old as closely as possible.	Installing new decorative material and paneling which destroys significant architectural features or was unavailable when the building was constructed, such as vinyl plastic or imitation wood wall and floor coverings, except in utility areas such as bathrooms and kitchens.

BUILDING: INTERIOR FEATURES—continued

Recommended	*Not Recommended*
Retaining original plaster, wherever possible.	Removing plaster to expose brick to give the wall an appearance it never had.
Discovering and retaining original paint colors, wallpapers and other decorative motifs or, where necessary, replacing them with colors, wallpapers or decorative motifs based on the original.	Changing the texture and patina of exposed wooden architectural features (including structural members) and masonry surfaces through sandblasting or use of other abrasive techniques to remove paint, discoloration and plaster, except in certain industrial or warehouse buildings where the interior masonry or plaster surfaces do not have significant design, detailing, tooling, or finish; and where wooden architectural features are not finished, molded, beaded, or worked by hand.
Where required by code, enclosing an important interior stairway in such a way as to retain its character. In many cases glazed fire rated walls may be used.	Enclosing important stairways with ordinary fire rated construction which destroys the architectural character of the stair and the space.
Retaining the basic plan of a building, the relationship and size of rooms, corridors, and other spaces.	Altering the basic plan of a building by demolishing principal walls, partitions, and stairways.

NEW CONSTRUCTION

Recommended	*Not Recommended*
Keeping new additions and adjacent new construction to a *minimum*, making them compatible in scale, building materials, and texture.	
Designing new work to be compatible in materials, size, color, and texture with the earlier building and the neighborhood.	Designing new work which is *incompatible* with the earlier building and the neighborhood in materials, size, scale, and texture.

NEW CONSTRUCTION—continued

Recommended	*Not Recommended*
Using contemporary designs compatible with the character and mood of the building or the neighborhood.	Imitating an earlier style or period of architecture in new additions, except in rare cases where a contemporary design would detract from the architectural unity of an ensemble or group. Especially avoid imitating an earlier style of architecture in new additions that have a completely contemporary function such as a drive-in bank or garage.
	Adding new height to the building that changes the scale and character of the building. Additions in height should not be visible when viewing the principal facades.
	Adding new floors or removing existing floors that destroy important architectural details, features and spaces of the building.
Protecting architectural details and features that contribute to the character of the building.	
Placing television antennae and mechanical equipment, such as air conditioners, in an inconspicuous location.	Placing television antennae and mechanical equipment, such as air conditioners, where they can be seen from the street.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, PLUMBING, FIRE PROTECTION

Recommended	*Not Recommended*
Installing necessary mechanical systems in areas and spaces that will require the least possible alteration to the structural integrity and physical appearance of the building.	Causing unnecessary damage to the plan, materials, and appearance of the building when installing mechanical systems.
Utilizing early mechanical systems, including plumbing and early lighting fixtures, where possible.	Attaching exterior electrical and telephone cables to the principal elevations of the building.

MECHANICAL SYSTEMS: HEATING, AIR CONDITIONING, ELECTRICAL, PLUMBING, FIRE PROTECTION—continued

Recommended	*Not Recommended*
Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.	Installing vertical runs of ducts, pipes, and cables in places where they will be a visual intrusion.
	Concealing or "making invisible" mechanical equipment in historic walls or ceilings. Frequently this concealment requires the removal of historic fabric.
	Installing "dropped" acoustical ceilings to hide mechanical equipment. This destroys the proportions and character of the rooms.
Insuring adequate ventilation of attics, crawlspaces, and cellars to prevent moisture problems.	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to conserve energy.	Installing foam, glass fiber, or cellulose insulation into wall cavities of either wooden or masonry construction. This has been found to cause moisture problems when there is no adequate moisture barrier.

SAFETY AND CODE REQUIREMENTS

Recommended	*Not Recommended*
Complying with code requirements in such a manner that the essential character of a building is preserved intact.	
Working with local code officials to investigate alternative life safety measures that preserve the architectural integrity of the building.	
Investigating variances for historic properties allowed under some local codes.	

SAFETY AND CODE REQUIREMENTS—continued

Recommended	*Not Recommended*
Installing adequate fire prevention equipment in a manner that does minimal damage to the appearance or fabric of a property.	
Adding new stairways and elevators that do not alter existing exit facilities or other important architectural features and spaces of the building.	Adding new stairways and elevators that alter existing exit facilities or important architectural features and spaces of the building.

National Park Service
U.S. Department of the Interior
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8.2 General Standards and Criteria

A. APPROACH

1. The design approach to the property should begin with the premise that the features of historical and architectural significance described within the Study Report must be preserved. In general this will minimize the exterior alterations that will be allowed.

2. Changes and additions to the property and its environment which have taken place in the course of time are evidence of the history of the property and the neighborhood. These changes to the property may have developed significance in their own right, and this significance should be recognized and respected. ("Later integral features" shall be the term used to convey this concept.)

3. Deteriorated material or architectural features, whenever possible, should be repaired rather than replaced or removed.

4. When replacement of architectural features is necessary it should be based on physical or documentary evidence of original or later integral features.

5. New materials should, whenever possible, match the material being replaced in physical properties, design, color texture and other visual qualities. The use of imitation replacement materials is generally discouraged.

6. New additions or alterations should not disrupt the essential form and integrity of the property and should be compatible with the size, scale, color, material and character of the property and its environment.

7. Contemporary design is encouraged for new additions; thus, they must not necessarily be imitative of an earlier style or period.

8. New additions or alterations should be done in such a way that if they were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

9. Priority shall be given to those portions of the property which are visible from public ways or which it can be reasonably inferred may be in the future.

10. Color will be considered as part of specific standards and criteria that apply to a particular property.

B. EXTERIOR WALLS

I. MASONRY

1. Retain whenever possible, original masonry and mortar.

2. Duplicate original mortar in compostion, color, texture, joint size, joint profile and method of application.

3. Repair and replace deteriorated masonry with material which matches as closely as possible.

4. When necessary to clean masonry, use gentlest method possible. Do not sandblast. Doing so changes the visual quality of the material and accelerates deterioration. Test patches should always be carried out well in advance of cleaning (including exposure to all seasons if possible).

5. Avoid applying waterproofing or water repellent coating to masonry, unless required to solve a specific problem. Such coatings can accelerate deterioration.

6. In general, do not paint masonry surfaces. Painting masonry surfaces will be considered only when there is documentary evidence that this treatment was used at some point in the history of the property.

II. NON-MASONRY

1. Retain and repair original or later integral material whenever possible.

2. Retain and repair, when necessary, deteriorated material with material that matches.

C. ROOFS

1. Preserve the integrity of the original or later integral roof shape.

2. Retain original roof covering whenever possible.

3. Whenever possible, replace deteriorated roof covering with material which matches the old in composition, size, shape, color, texture, and installation detail.

4. Preserve architectural features which give the roof its character, such as cornices, gutters, iron filligree, cupolas, dormers, brackets.

D. WINDOWS AND DOORS

1. Retain original and later integral door and window openings where they exist. Do not enlarge or reduce door and window openings for the purpose of fitting stock window sash or doors, or air conditioners.

2. Whenever possible, repair and retain original or later integral window elements such as sash, lintels, sills, architraves, glass, shutters and other decorations and hardware. When replacement of materials or elements is necessary, it should be based on physical or documentary evidence.

3. On some properties consideration will be given to changing from the original window details to other expressions such as to a minimal anonymous treatment by the use of a single light, when consideration of cost, energy conservation or appropriateness override the desire for historical accuracy. In such cases, consideration must be given to the resulting effect on the interior as well as the exterior of the building.

E. PORCHES, STEPS AND EXTERIOR ARCHITECTURAL ELEMENTS

1. Retain and repair porches and steps that are original or later integral features including such items as railings, balusters, columns, posts, brackets, roofs, ironwork, benches, fountains, statues and decorative items.

F. SIGNS, MARQUEES AND AWNINGS

1. Signs, marquees and awnings integral to the building ornamentation or architectural detailing shall be retained and repaired where necessary.

2. New signs, marquees and awnings shall not detract from the essential form of the building nor obscure its architectural features.

3. New signs, marquees and awnings shall be of a size and material compatible with the building and its current use.

4. Signs, marquees and awnings applied to the building shall be applied in such a way that they could be removed without damaging the building.

5. All signs added to the building shall be part of one system of design, or reflect a design concept appropriate to the communication intent.

6. Lettering forms or typeface will be evaluated for the specifice use intended, but generally shall either be contemporary or relate to the period of the building or its later integral features.

7. Lighting of signs will be evaluated for the specific use intended, but generally illumination of a sign shall not dominate illumination of the building.

8. The foregoing not withstanding, signs are viewed as the most appropriate vehicle for imaginative and creative expression, especially in structures being reused for purpose different from the original, and it is not the Commission's intent to stifle a creative approach to signage.

G. PENTHOUSES

1. The objective of preserving the integrity of the original or later integral roof shape shall provide the basic criteria in judging whether a penthouse can be added to a roof. Height of a building, prominence of roof form, and visibility shall govern whether a penthouse will be approved.

2. Minimizing or eliminating the visual impact of the penthouse is the general objective and the following guidelines shall be followed:
   a) Location shall be selected where the penthouse is not visible from the street or adjacent buildings; setbacks shall be utilized.

   b) Overall height or other dimensions shall be kept to a point where the penthouse is not seen from the street or adjacent buildings.
   c) Exterior treatment shall relate to the materials, color and texture of the building or to other materials integral to the period and character of the building, typically used for appendages.

   d) Openings in a penthouse shall relate to the building in proportion, type and size of opening, wherever visually apparent.

H. LANDSCAPE FEATURES

1. The general intent is to preserve the existing or later integral landscape features that enhance the landmark property.

2. It is recognized that often the environment surrounding the property has character, scale and street pattern quite different from that existing when the building was constructed. Thus, changes must frequently be made to accomodate the new condition, and the landscape treatment can be seen as a transition feature between the landmark and its newer surroundings.

3. The existing landforms of the site shall not be altered unless shown to be necessary for maintenance of the landmark or site. Additional landforms will only be considered if they will not obscure the exterior of the landmark.

4. Original layout and materials of the walks, steps, and paved areas should be maintained. Consideration will be given to alterations if if can be shown that better site circulation is necessary and that the alterations will improve this without altering the integrity of the landmark.

5. Existing healthy plant materials should be maintained as long as possible. New plant materials should be added on a schedule that will assure a continuity in the original landscape design and its later adaptations.

6. Maintenance of, removal of, and additions to plant materials should consider maintaining existing vistas of the landmark.

EXTERIOR LIGHTING

1. There are three aspects of lighting related to the exterior of the building:
   a) Lighting fixtures as appurtenances to the building or elements of architectural ornamentation.
   b) Quality of illumination on building exterior.
   c) Interior lighting as seen from the exterior.

2. Wherever integral to the building, original lighting fixtures shall be retained. Supplementary illumination may be added where appropriate to the current use of the building.

3. New lighting shall conform to any of the following approaches as appropriate to the building and to the current or projected use:
   a) Accurate representation of the original period, based on physical or documentary evidence.

   b) Retention or restoration of fixtures which date from an interim installation and which are considered to be appropriate to the building and use.

   c) New lighting fixtures which are contemporary in design and which illuminate the exterior of the building in a way which renders it visible at night and compatible with its environment.

4. If a fixture is to be replaced, the new exterior lighting shall be located where intended in the original design. If supplementary lighting is added, the new location shall fulfill the functional intent of the current use without obscuring the building form or architectural detailing.

5. Interior lighting shall only be reviewed when its character has a significant effect on the exterior of the building; that is, when the view of the illuminated fixtures themselves, or the quality and color of the light they produce, is clearly visible through the exterior fenestration.

J. REMOVAL OF LATER ADDITIONS AND ALTERATIONS

1. Each property will be separately studied to determine if later additions and alterations can, or should, be removed. It is not possible to provide one general guideline.

2. Factors that will be considered include:

   a) Compatibility with the original property's integrity in scale, materials and character.

   b) Historic association with the property.

   c) Quality in the design and execution of the addition.

   d) Functional usefulness.

Section 9.0 SPECIFIC STANDARDS AND CRITERIA: The U.S. Custom House

The intention of these standards is to preserve the architectural integrity and appearance of the building, both the original structure and in the added tower, which has been carefully maintained throughout its history. The general approach is to allow minimal change to those elements which are essential to the architectural integrity of the building and to encourage such changes to other elements, or to control them in a manner that enhances the appearance of the building. Because extensive documentary evidence of the Custom House exists, future changes based on such evidence will be encouraged.

BUILDING MASS

1. No additions shall be permitted to the existing massing of the building.

EXTERIOR WALLS AND ROOF

1. No new openings shall be allowed within the granite walls.
2. Original basement openings which have been closed-in may be reopened, and service access to the building shall be located within the basement-level openings on McKinley Square.
3. Reopening of windows which once existed in the frieze may be considered, as documented in historic photographs.
4. No duct work or exposed conduit may be installed on the exterior walls.
5. Roof tiles shall be repaired and any necessary replacements shall match the existing tiles.
6. Original masonry and mortar shall be retained whenever possible.
7. Original mortar shall be duplicated in compostion, color, texture, joint size, joint profile and method of application.
8. Deteriorated masonry shall be repaired and replaced with material which matches as closely as possible.
9. When necessary to clean masonry, the gentlest method possible shall be used. Sandblasting is prohibited. Test patches should always be conducted and examined through a full set of seasons prior to cleaning.
10. Waterproofing or water repellent coating shall not be applied to masonry, unless required to solve a specific problem, since such coatings can accelerate deterioration.
11. Masonry surfaces shall not be painted.

TOWER

1. Alterations to the existing enclosure on the observation deck should attempt to minimize the visibility of the metal screening with appropriate paint treatment or with non-reflective metal.

2. Dish antennas and similar conspicuous communication devices are not permitted. Unobtrusive needle antennas similar to the existing may be allowed but are not encouraged.

3. Restoration of the original revolving beacon is encouraged, and should be incorporated into the stainless steel cap.

4. The pressed copper spandrels and grillework may be cleaned using acceptable techniques for preservation of exterior copper.

5. The illuminated clock faces and hands are a significant visual feature on the city skyline and shall be maintained in working order.

6. The copper cresting above the clock face level shall be retained, and when replacement is necessary, identical material and design shall be used.

7. Fixtures installed for uplighting of the tower should be mounted inconspicuously; the introduction of a multi-colored scheme is not encouraged.

WINDOWS

1. Copper-clad six-over-six light windows exist under the porticos facing India St. and McKinley Square. These windows (which appear to date from the Peabody and Stearns work on the building) shall be retained and repaired. Since these windows are metal-clad, metal replacement windows for other window openings are acceptable, provided they have through muntins and duplicate as closely as possible the configuration, profile, recess, and color of the copper-clad windows. Replacements may also be wood-constructed with a through-muntin assembly, with paint color to match the existing six-over-six or the condition on the upper elevations. Particular attention should be directed to recreating the framing sections and matching the finish in color. Another acceptable option is replication of the original (1837-47) window unit configuration for that portion of the building, based on documentary evidence . Young's architectural renderings indicate double-hung eight-over-eight sash. No tinted or reflective-coated glass shall be allowed.

2. Replacement of the metal factory sash (dating to 1950) in the 1837 portion of the building is encouraged.

3. Awnings over window openings are not allowed.

4. Existing basement level windows date from the 1916 alterations to the building and should be retained.

5. Removal of the mesh grilles over the basement windows is encouraged.

6. If the scuttles below the basement windows are proposed for removal, one should be maintained as evidence of their original function.
7. New window grilles should be substantial in appearance and relate to a classical motif present elsewhere on the building, such as the Roman grating.

8. No balconies shall be allowed.

9. Removal of protruding window unit air conditioners is encouraged.

10. All proposals for HVAC equipment shall be reviewed by the Commission, and such equipment shall be concealed within the integral architectural features of the building.

ENTRANCES

1. The elaborate doors within the porticos at the McKinley Sq. and India St. entrances should be cleaned and preserved. The contemporary oak doors at the flanking street-level entrances and the airlocks may be replaced. The design and materials of replacement doors should relate to classically-inspired detailing elsewhere within the building.

2. An appropriate handicap access through the street-level entrance facing Central St. is recommended.

3. Canopies may be installed over street-level entryways.

4. Exterior lighting fixtures should be mounted within the opening of each entryway or recreate the early freestanding decorative lighting standards revealed in historic photos. The existing contemporary fixtures here are inappropriate, and should be replaced.

5. Replacement of the stair railings on India St. is encouraged, provided that their replacements are compatible with the architectural character and dignity of the building.

SIGNS

1. Wall plaques should be mounted into mortar joints and not into the masonry, which has remarkably few boring scars from signs. The use of interior window signs, free-standing kiosks, and banners is preferred to wall-mounted signs.

2. Protruding signs are not allowed. No back-lit signs shall be allowed.

MISCELLANEOUS EXTERIOR FEATURES.

1. Anti-pigeon devices shall be non-reflective and located unobtrusively.

2. Copper roof flashing shall be retained and repaired wherever possible.

3. Alterations to the paving surrounding the Custom House and the introduction of street furniture, planters, lighting devices and the like shall be subject to the review of the Commission.

INTERIOR

The designation applies to the street-level lobby with its vaulted passages and to the full rotunda space and flanking passageways on the upper floors within the original 1837 building.

1. The ceiling vaulting at of the street level lobby shall be maintained.

2. The volume of the rotunda space shall not be interrupted, and all service elements should be located within the street-level space. The design of such installations should reinforce the style of the building or be of a restrained contemporary design.

3. No original material surface covering shall be removed. The marble flooring tiles shall be preserved and not covered permanently. The granite or marble surfaces shall not be painted.

4. Cleaning of the marble is not encouraged. If necessary, it should occur with professional supervision and only after careful evaluation of a sample test patch.

5. The installation of replacement lighting fixtures of a more traditional design is encouraged. No exposed conduit shall be allowed. Suspended fixtures and wall sconces are preferable to ceiling-mounted fixtures.

6. Relocation of the exposed sprinkler system is recommended.

7. Restoration of the decorative cast metal elevator door surrounds is recommended.

8. Replacement of the contemporary flush metal elevator doors is recommended.

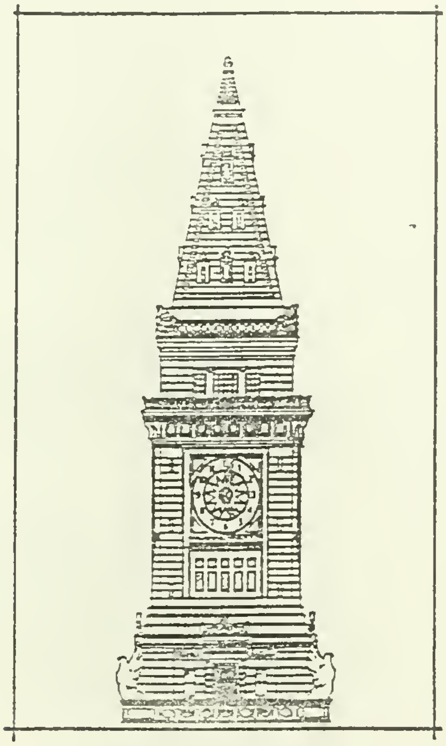
9. The decorative iron stair rails (now painted) on the upper levels of the rotunda should be restored to their original finish based on professional conservation practices.

10. Interior illumination of the dome should be achieved with inconspicuous fixtures.

11. Signs should be respectful of the design elements within the rotunda; contemporary typeface and plastic signs are discouraged.

CUSTOM HOUSE / 131 STATE STREET HOTEL

BOSTON



CONNECTOR

DESIGN
ALTERNATIVES
REPORT

THE BEAL COMPANIES

INTER-CONTINENTAL HOTELS

Architect: CBT Childs Bertman Tseckares & Casendino Inc.

MAY 1, 1991

CUSTOM HOUSE/131 STATE STREET HOTEL

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INTRODUCTION

This report describes the alternatives considered by the Beal Companies and InterContinental Hotels to connect the Custom House and the Board of Trade Building (131 State Street) and to create a suitable lobby space for the new hotel.

The considerations which affect the determination of the most appropriate solution include the operational needs of the hotel, transportation needs (vehicular and pedestrian circulation), historic preservation considerations including degree of physical alterations to historic buildings and reversibility, and urban design considerations.

Below Grade Connection

Pros

1. Does not create any new structures at street level.
2. India Street remains open.
3. Existing historic building facades remain untouched.

Cons

1. Infeasible for engineering/structural reasons.
   a) Height and width of openings into Custom House and Board of Trade Building basements are limited.
   b) Existing Custom House foundations do not allow construction of pits for high-speed elevators.
   c) Existing slab under Board of Trade Building makes below-grade entrance problematic (cost, structure).
2. Decreases room count by 20-30 rooms because function rooms, and back of house facilities (kitchen, staff lockers, admin.) have to occupy guest room areas.

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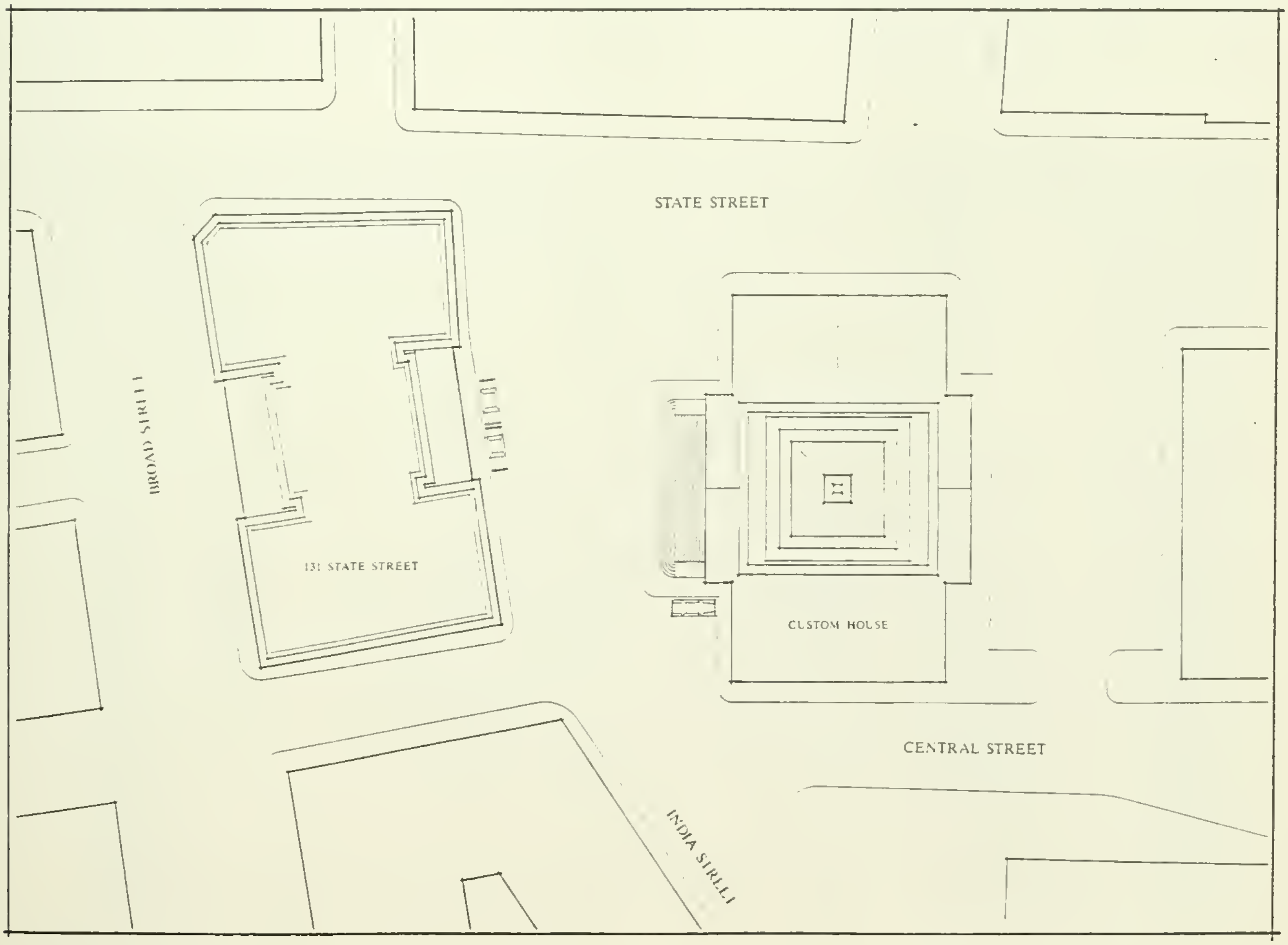
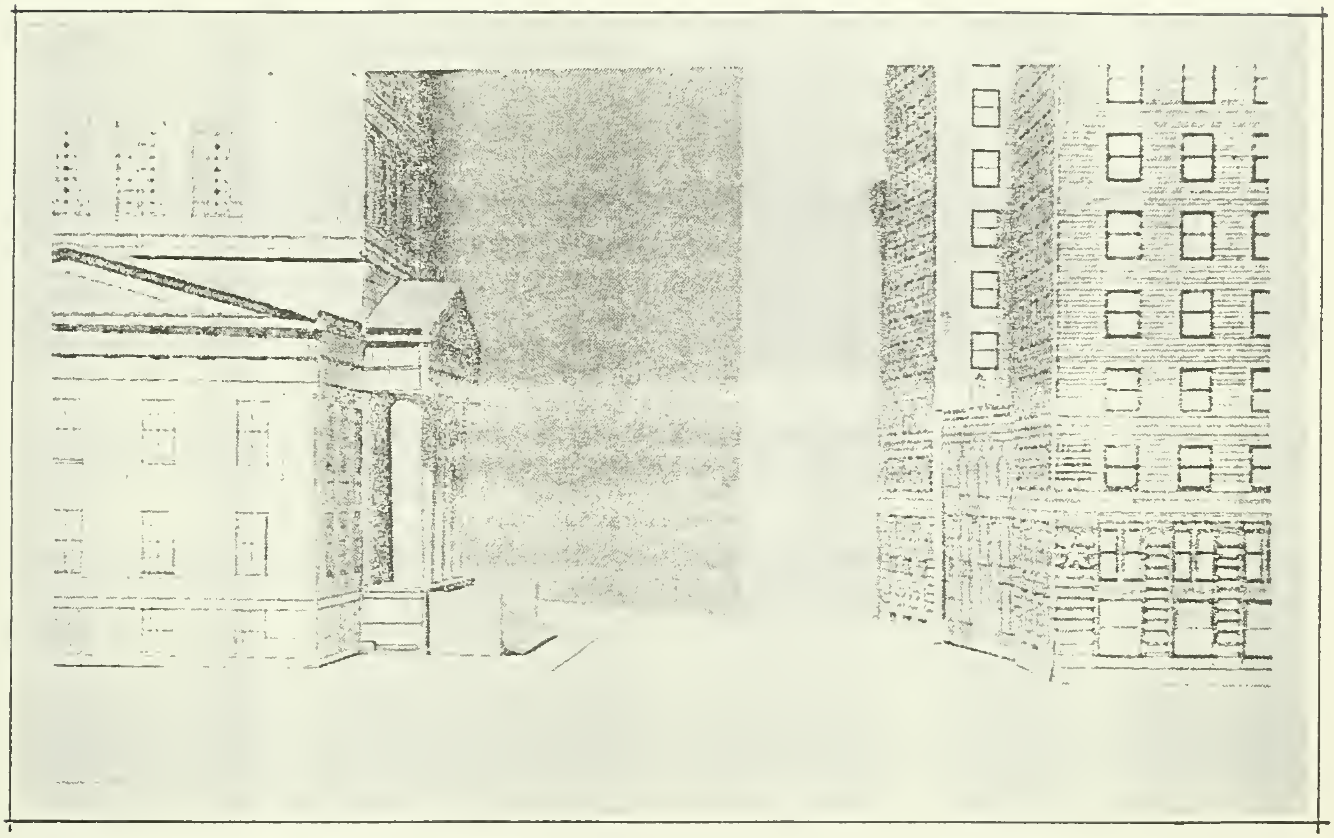


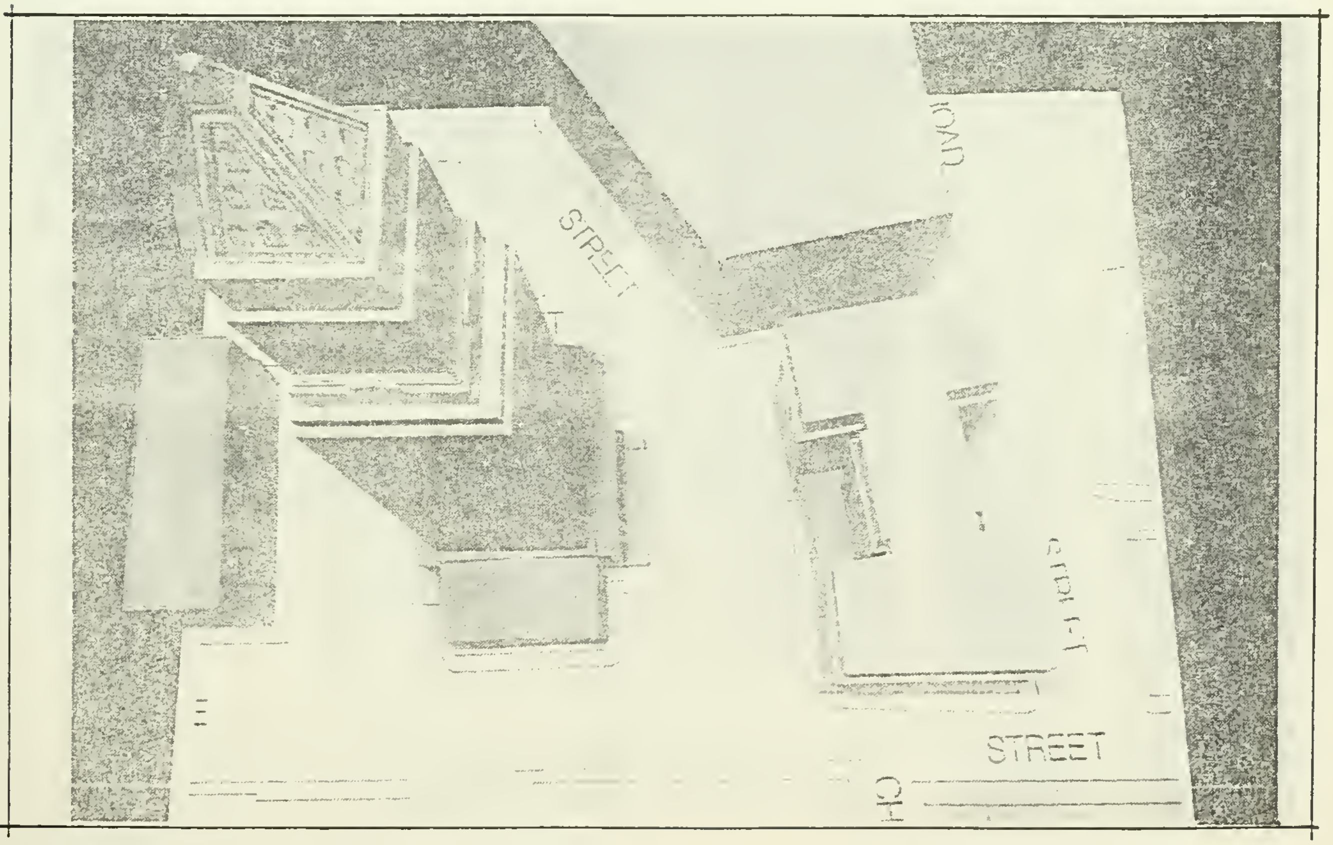
Site Plan

Cons

3. No space in either the Custom House or Board of Trade Building is suitable for a hotel lobby in both size and configuration.
4. Requires circuitous route for hotel guests which is inappropriate for a luxury hotel.
5. Difficult to accommodate loading dock.



Eye Level View From State Street



Aerial View From State Street

Bridge Connection 2.0

2.0 - A bridge at floor 2 or 10 would be the only connection between the Custom House and the Board of Trade Building.

Bridge at 10th Floor

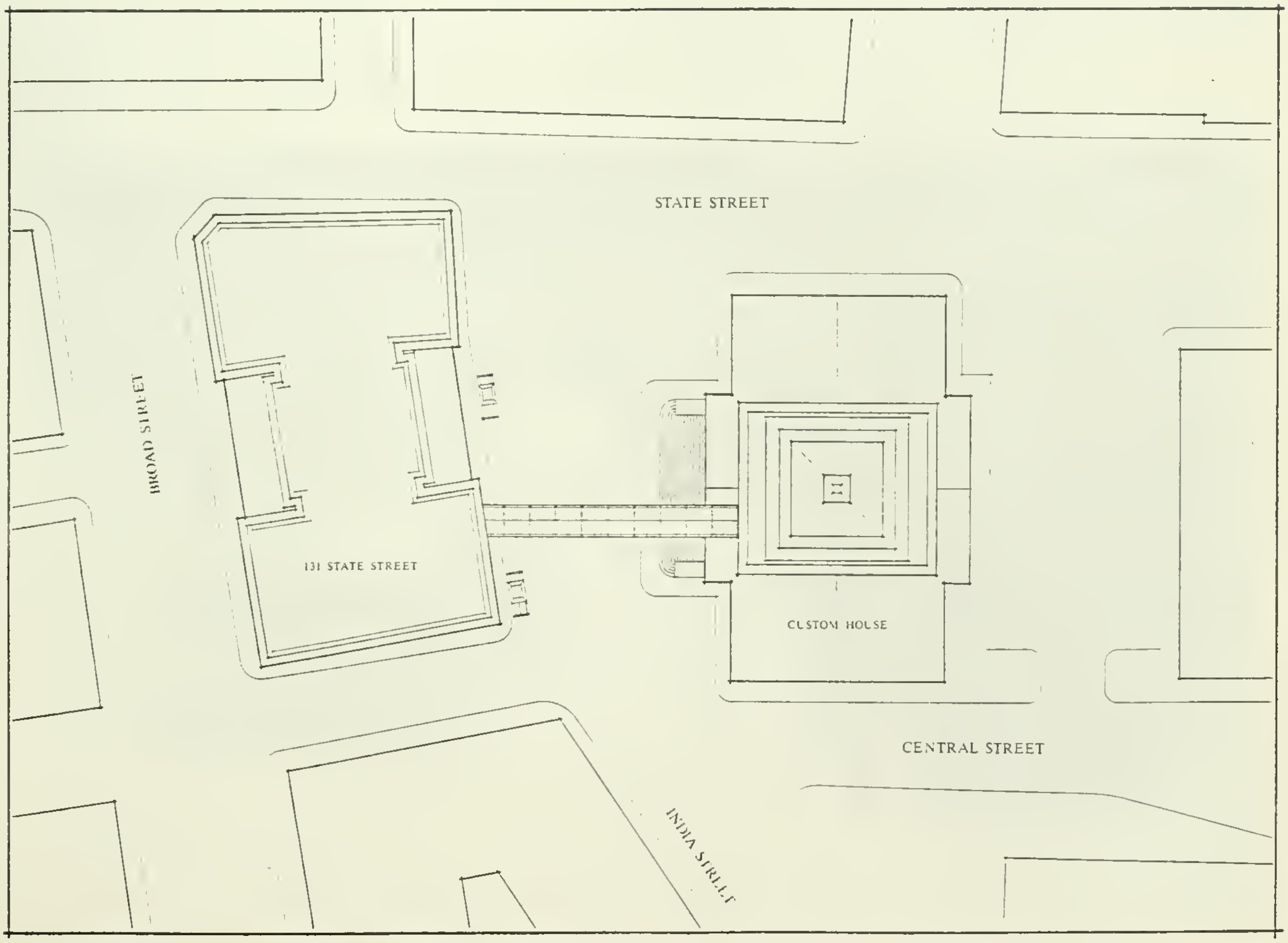
2.1

Pros

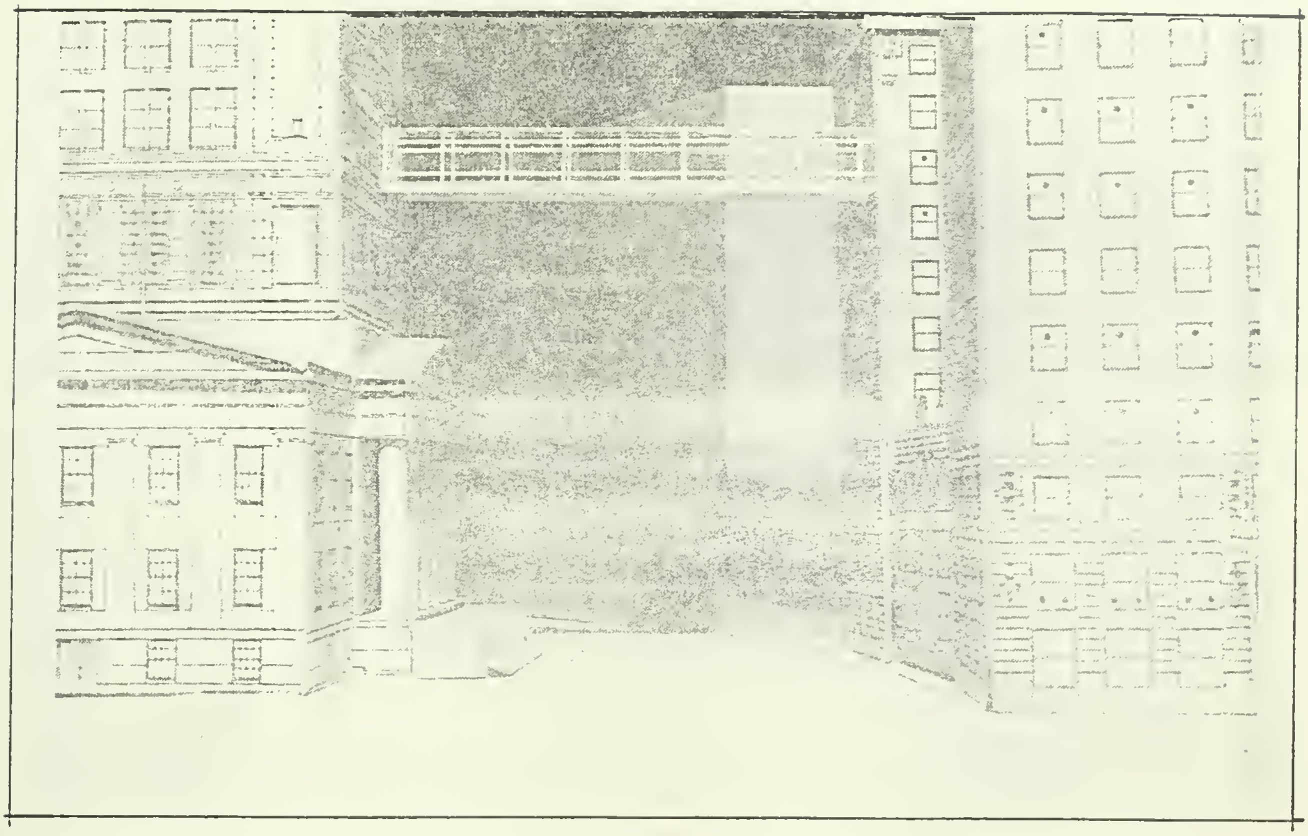
1. Leaves India Street fully open.
2. Would not impact lower facades of either building.
3. Leaves existing historic Custom House stairs in place.
4. Reversible in function and appearance.

Cons

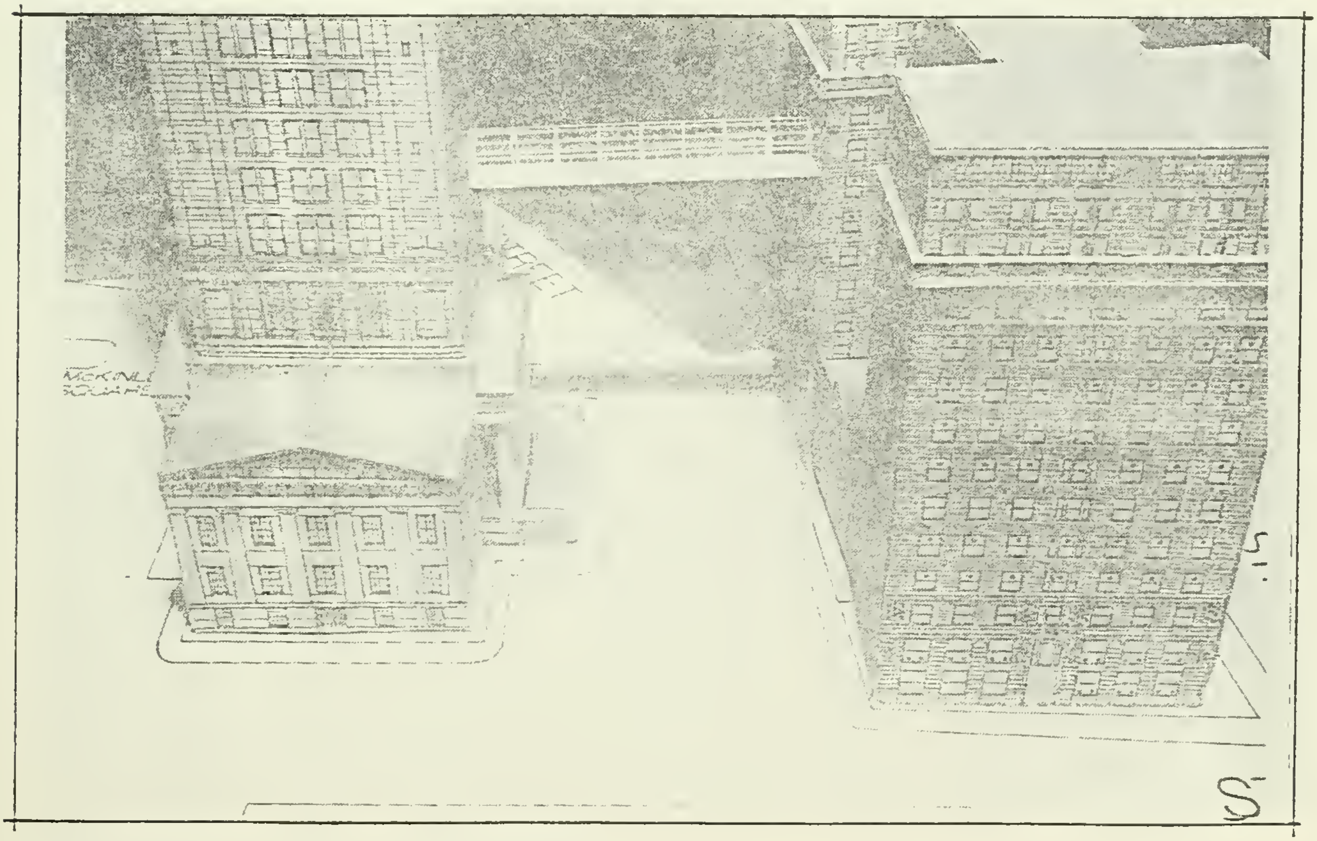
1. Creates unacceptable circulation patterns for hotel guests by requiring hotel guests to travel up and down 10 floors to move from one building to the other.
2. Does not create additional column-free space required for hotel lobby by hotel operator.
3. Bridge at this location impairs upper facades of both Custom House and Board of Trade buildings.
4. Excessive clear span for bridge is difficult/expensive to engineer and construct.
5. Difficult to accommodate loading dock.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Bridge at 2nd Floor

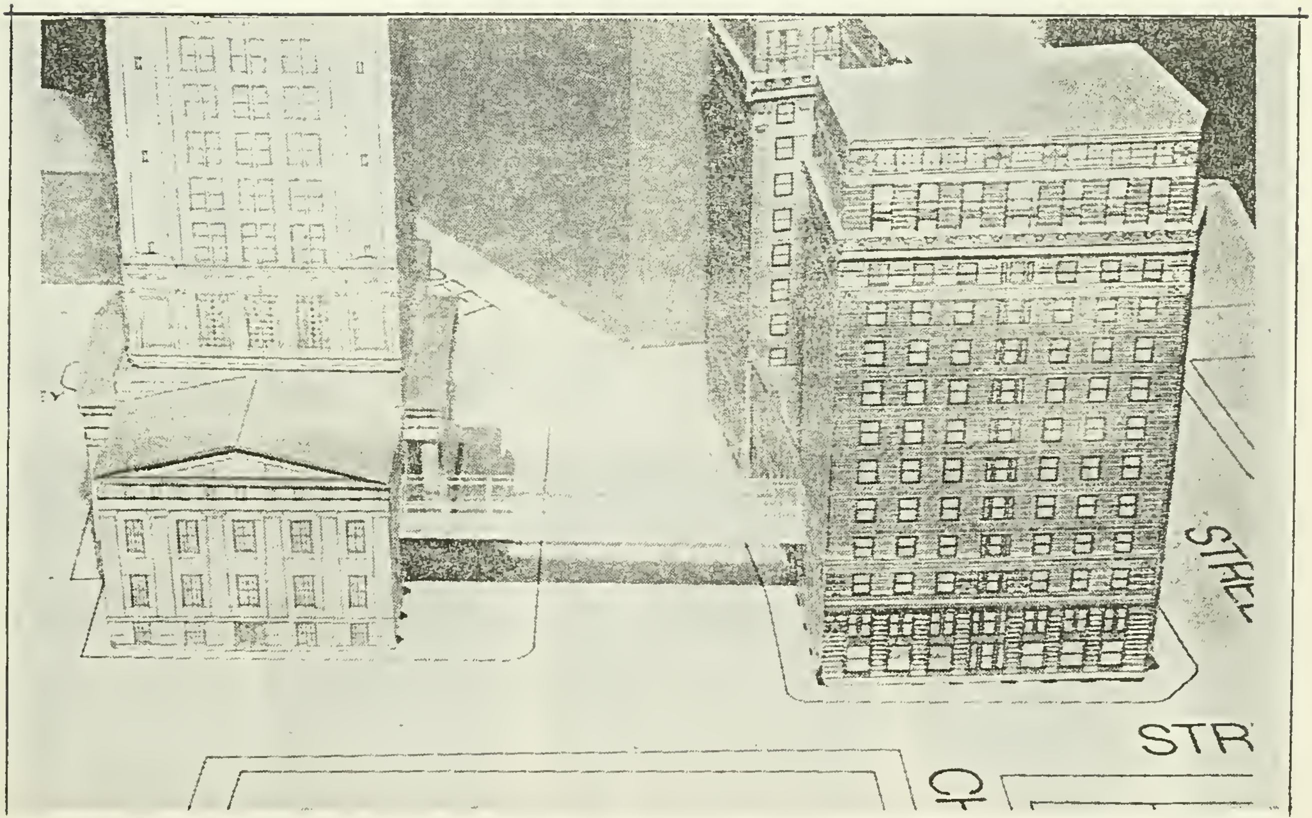
2.2

Pros

1. Leaves India Street fully open.
2. Leaves existing historic Custom House stairs in place.
3. Reversible in function and appearance.

Cons

1. Creates unacceptable circulation patterns for hotel guests by requiring hotel guests to travel up and down floors to move from one building to the other.
2. Does not create additional column-free space required for hotel lobby by hotel operator.
3. Excessive clear span for bridge is difficult/expensive to engineer and construct.
4. Difficult to accommodate loading dock.
5. Bridge impairs view of lower facades of both the Custom House and Board of Trade Building.



Aerial View From State Street

Raised Plaza – Custom House Attachment

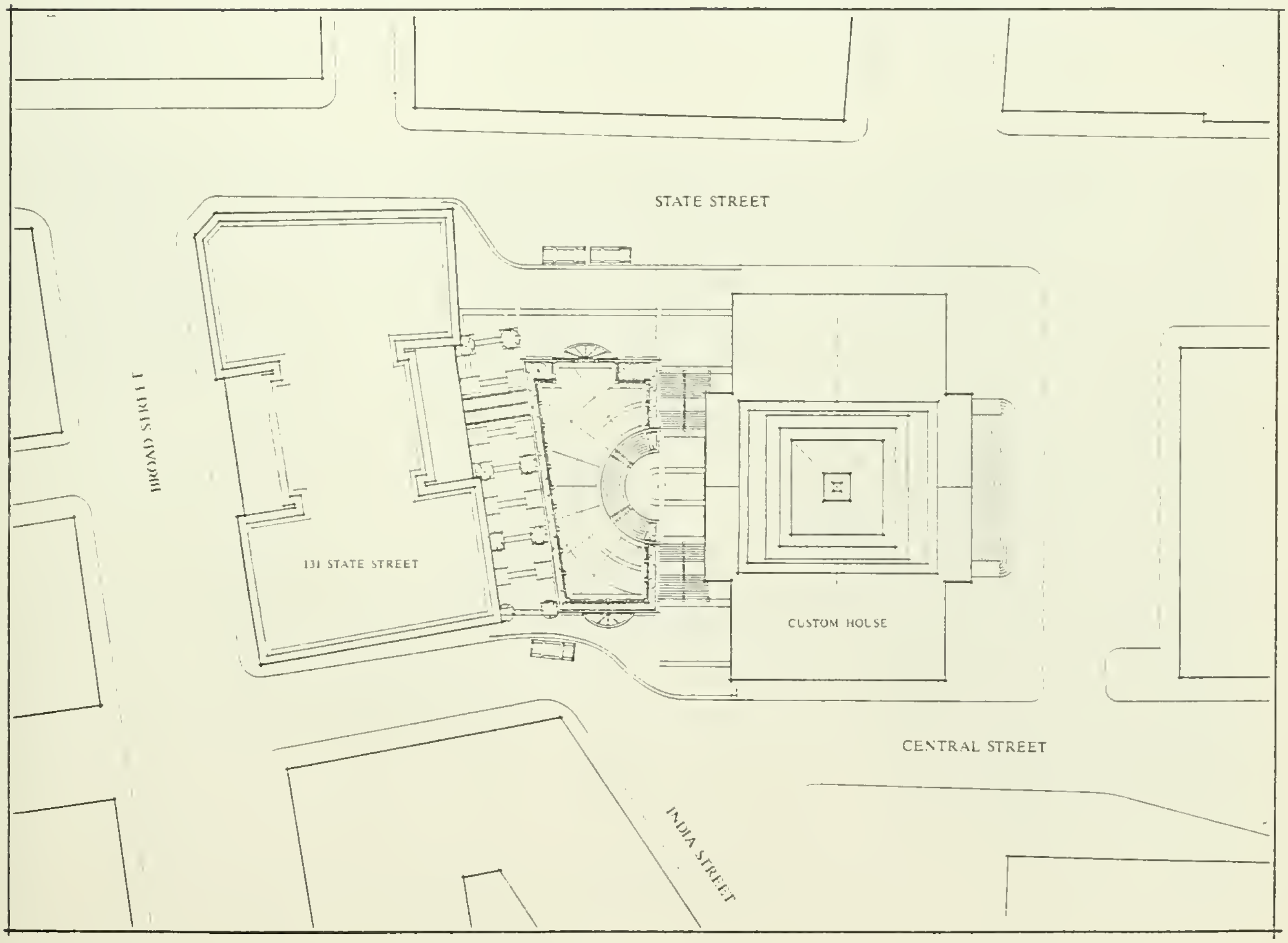
3.0

3.0 - The connection between the Custom House and the Board of Trade Building is made by constructing a new structure at grade on India Street, necessitating its closure. The new structure abuts the Custom House at the location of the existing entrance stairs, which are relocated to the east side. The hotel lobby and registration desk is located in the new structure, and is accessed on State Street. A public space is designed on the roof of the structure accessed by stairs. The connection to the Board of Trade Building is made with a narrow glass enclosure. A portion of the new structure is 15 feet high to provide sufficient head room in the hotel lobby.

Raised Plaza at Grade

3.1

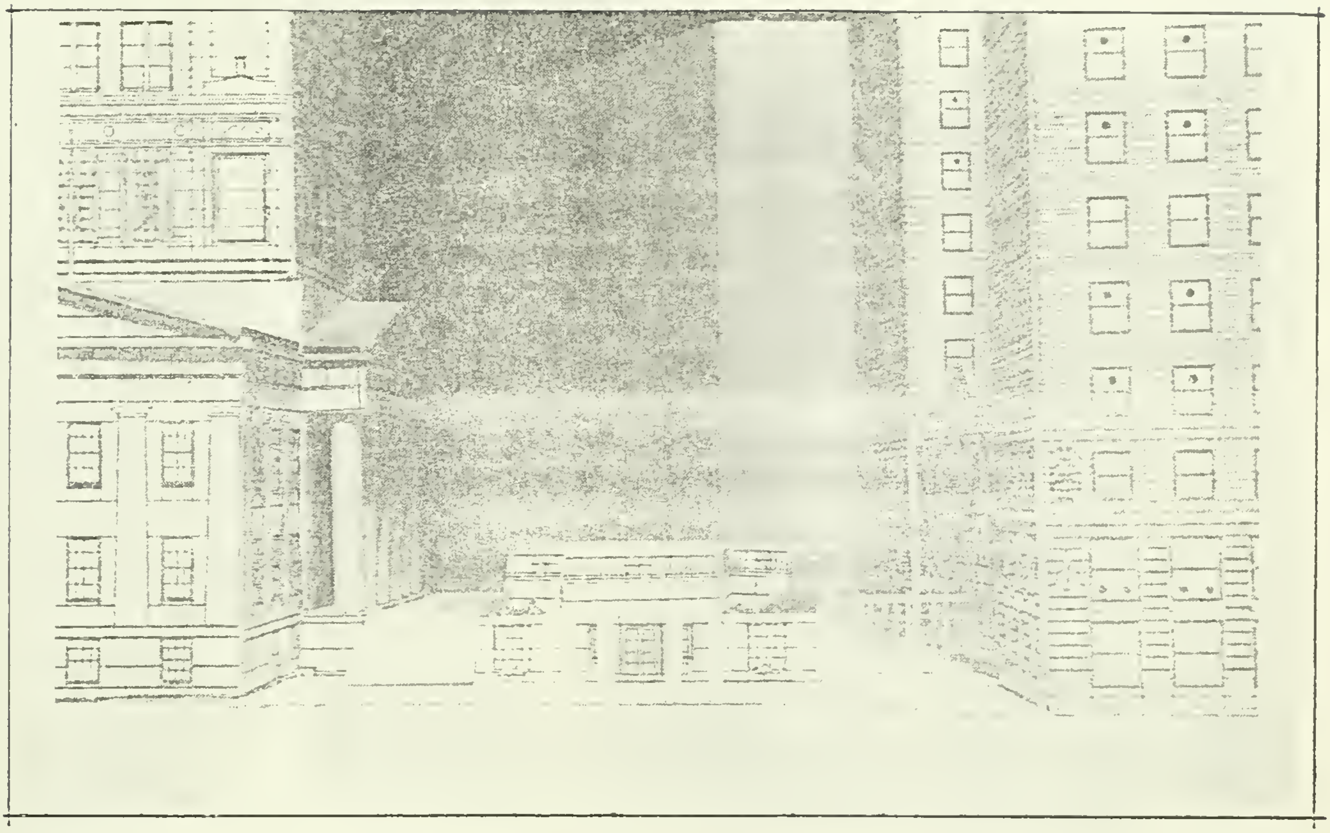
Pros	Cons
1. Little disruption of view of the Custom House facade from any angle.	1. Requires closure of India Street which is unacceptable for historic preservation and traffic circulation reasons.
	2. Attachment of new structure to Custom House detracts from its historic urban setting and its integrity as a free-standing structure. The Custom House is considered a substantially more important historic building than the Board of Trade Building.
	3. Requires removal of existing historic stairs from the Custom House.
	4. Substantial physical attachment to the Custom House is irreversible in both function and appearance.
	5. Portions of hotel lobby space have insufficient head room. (continued)



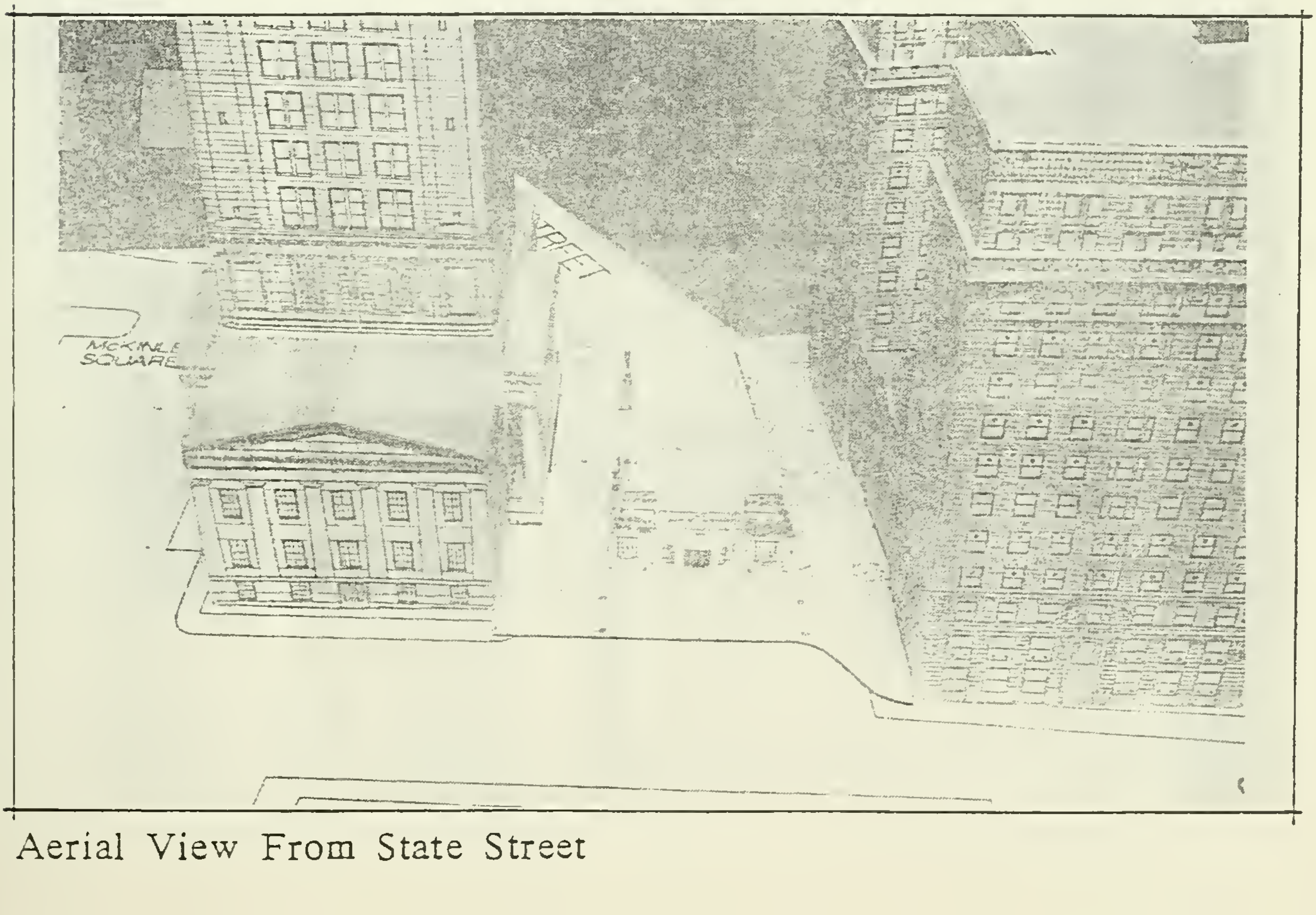
Site Plan

Cons

6. Hotel drop-off occurs on State Street, which is the busiest street the project is on.
7. Through pedestrian connections between State and Central Streets are compromised by forcing pedestrians to climb stairs or go through hotel lobby.
8. Difficult to accommodate loading dock.



Eye Level View From State Street



Aerial View From State Street

Raised Plaza with Bridge

3.2

3.2 - The plaza scheme (3.1) is altered so that a narrow vehicular road is left open between the connector structure and the Board of Trade Building. A second story bridge is built from the connector to the Board of Trade Building.

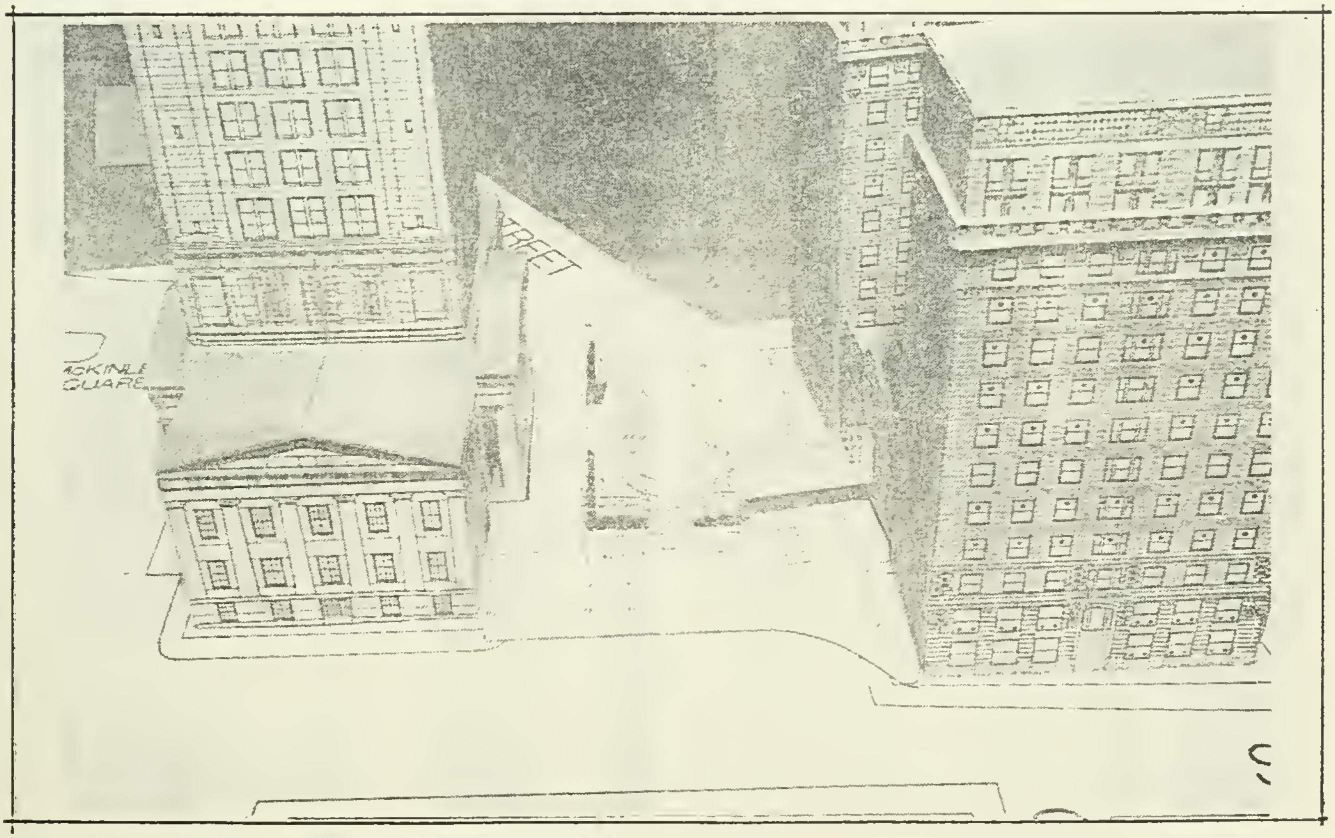
Pros

1. Leaves a portion of India Street open for vehicular traffic.
2. Little disruption of view of the Custom House facade from any angle

Cons

1. Attachment of new structure to the Custom House detracts from its historic urban setting and its integrity as a free-standing structure. The Custom House is considered a substantially more important historic building than the Board of Trade Building.
2. Requires removal of existing historic stairs from the Custom House.
3. Substantial physical attachment to the Custom House is irreversible in both function and appearance.

(continued)



Aerial View From State Street

Cons

4. Portions of hotel lobby space have insufficient head room.
5. Hotel drop-off occurs on State Street, which is the busiest street the project is on.
6. Circuitous routes from registration desk to guest rooms are least desirable to hotel operator.
7. Difficult to accommodate loading dock.

Independent Building 4.0

4.0 - The connector structure is a new, separate building constructed between the Board of Trade Building and the Custom House on India Street. The building would have a second story bridge connection into both the Custom House and the Board of Trade Building.

Independent Building with Bridge into Custom House Portico

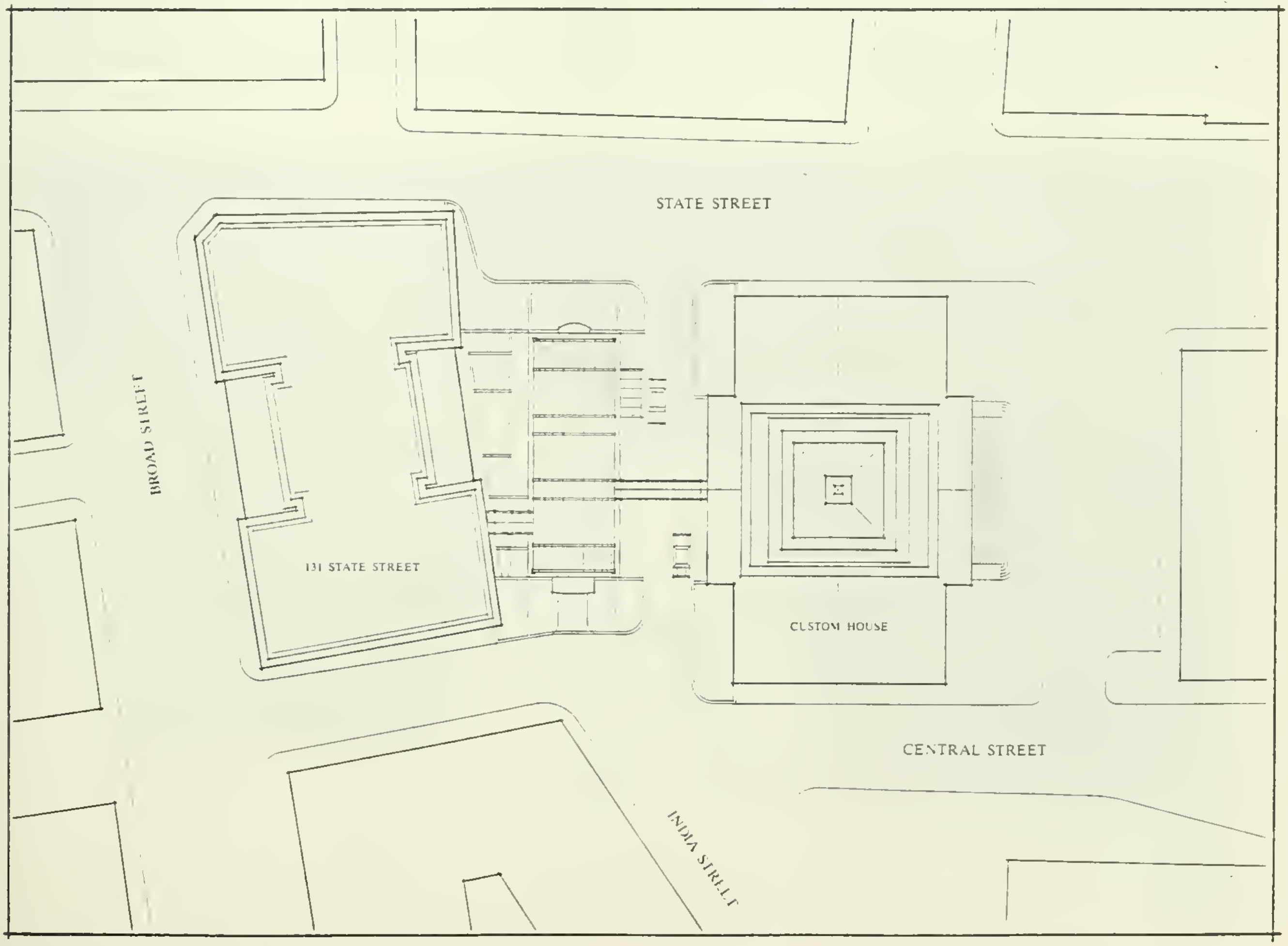
4.1

Pros

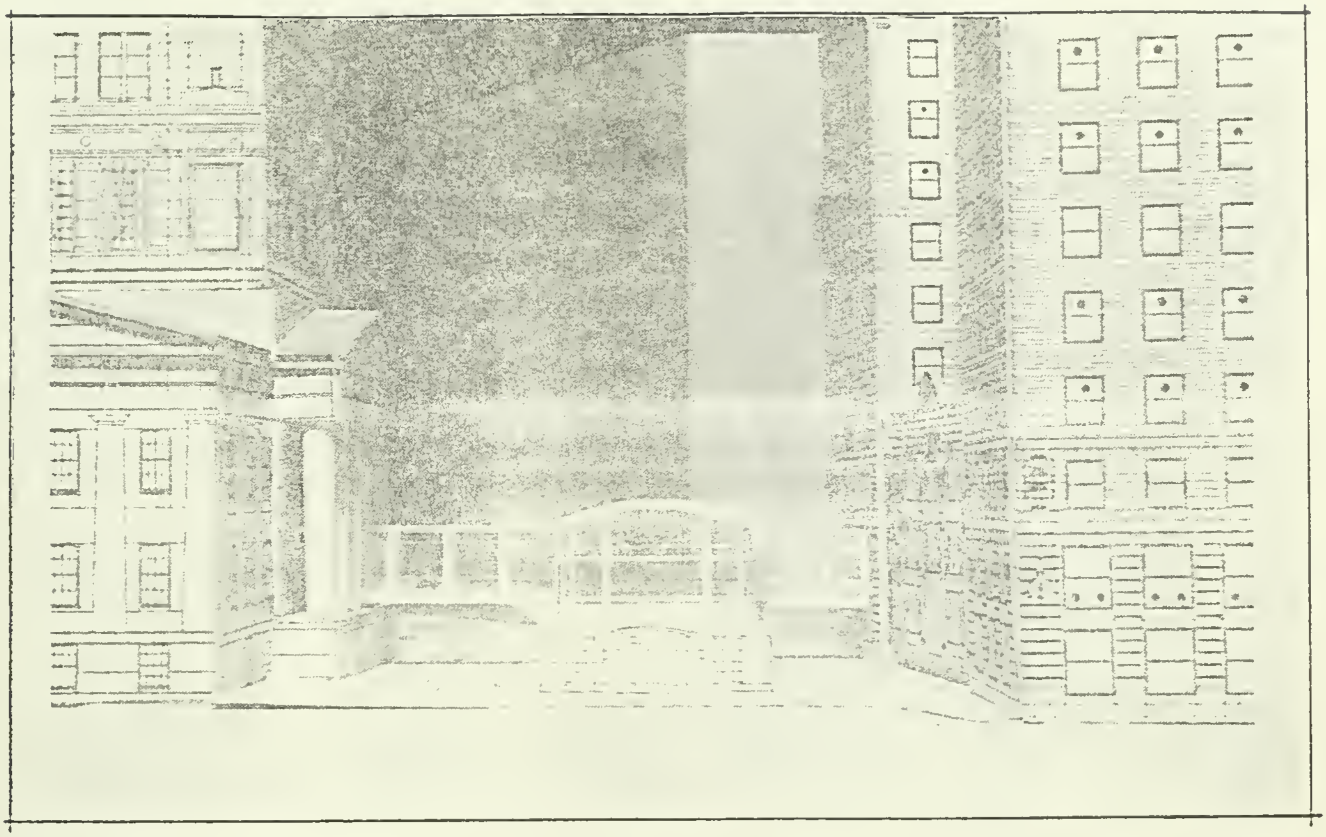
1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.
2. Bridge connection enters center of the Custom House, allowing hotel guests to enter the Custom House's most monumental space.

Cons

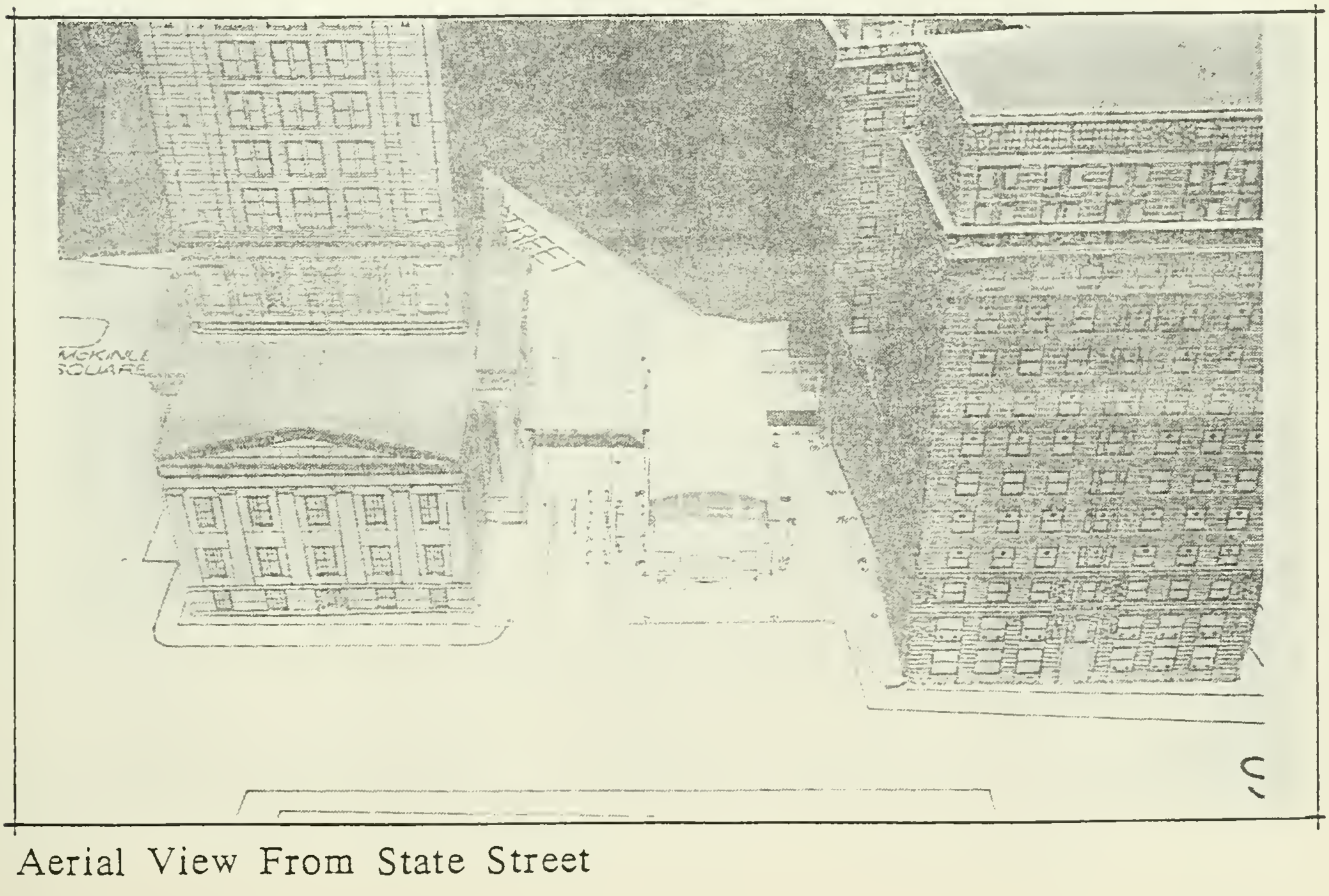
1. Insufficient room between the Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Obscures views of facades of both historic buildings from many angles.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Independent Building with Bridge into Custom House Near State Street

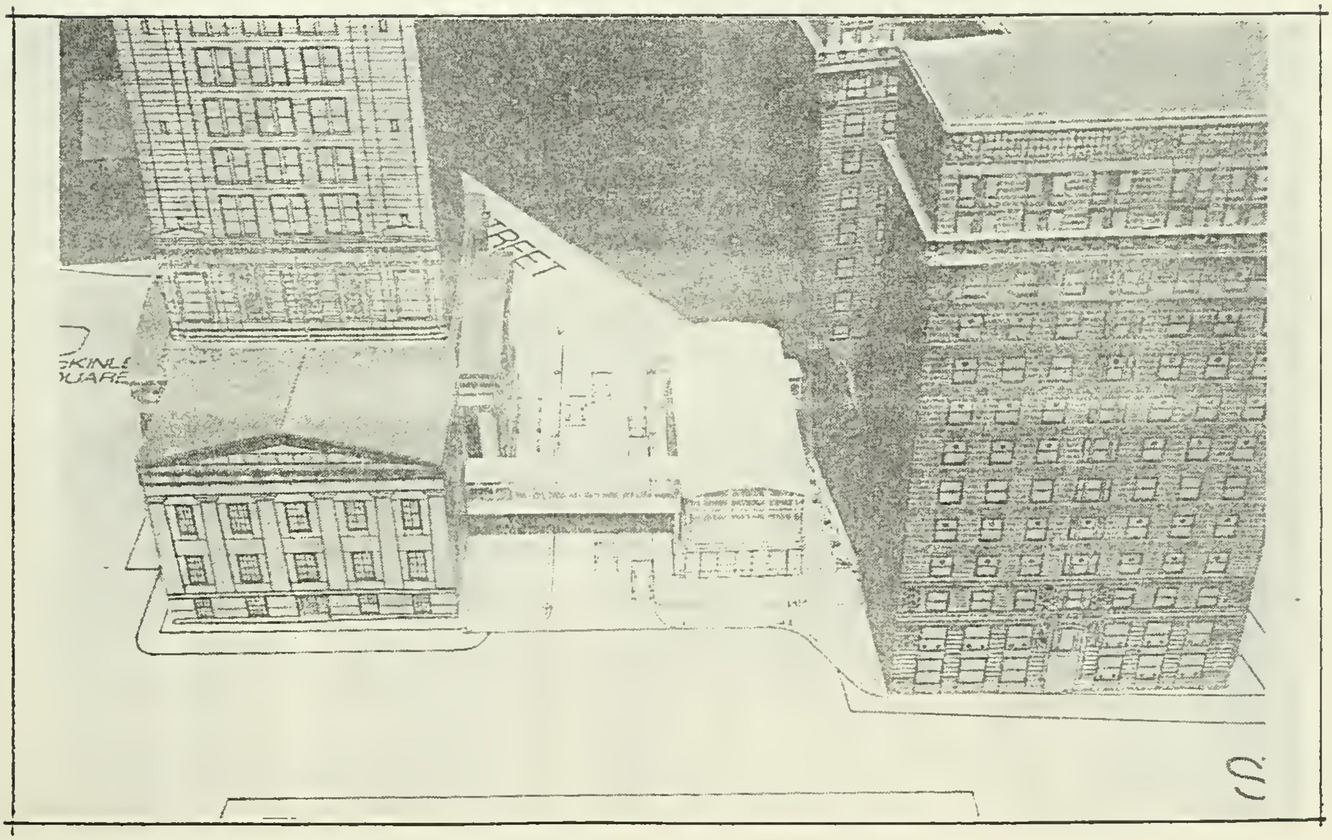
4.2

Pros

1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.

Cons

1. Insufficient room between Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Virtually blocks view of the Custom House facade as seen from State Street.



Aerial View From State Street

Independent Building with Bridge into Custom House Along State Street – Festive Pavilion

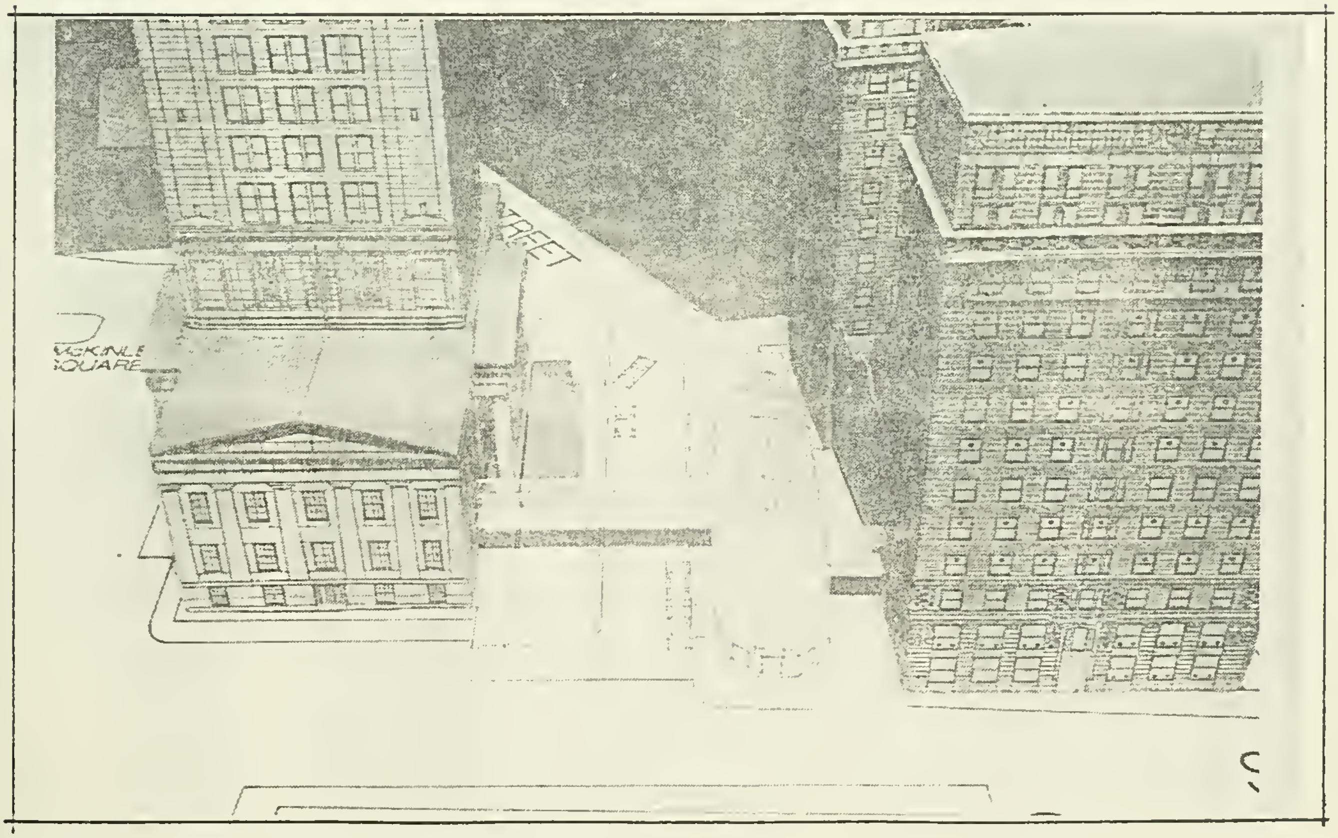
4.3

Pros

1. Leaves a narrow portion of India Street open to pedestrian and vehicular traffic.
2. Design of independent building is slightly less obtrusive than 4.2

Cons

1. Insufficient room between the Custom House and the Board of Trade Building for new building, roadway, and sidewalks.
2. New structure is too close to the Board of Trade Building, creating undesirable pedestrian space.
3. Addition of new building disrupts relationship between the Custom House and the Board of Trade Building, altering character of space more than any other option.
4. Requires removal of existing historic stairs from the Custom House.
5. Remaining India Street would be unacceptably narrow.
6. Virtually blocks view of the Custom House facade as seen from State Street.



Aerial View From State Street

Attachment to 131 State Street 5.0

5.0 - The connector is an addition to the India Street facade of the Board of Trade Building. A two-level glass structure encloses and highlights the center columns. A second floor bridge to the Custom House would be located in one of the three locations. Hotel drop-off occurs on India Street, which remains open to pedestrian and vehicular traffic.

Addition to Board of Trade Building with Bridge into Custom House Portico

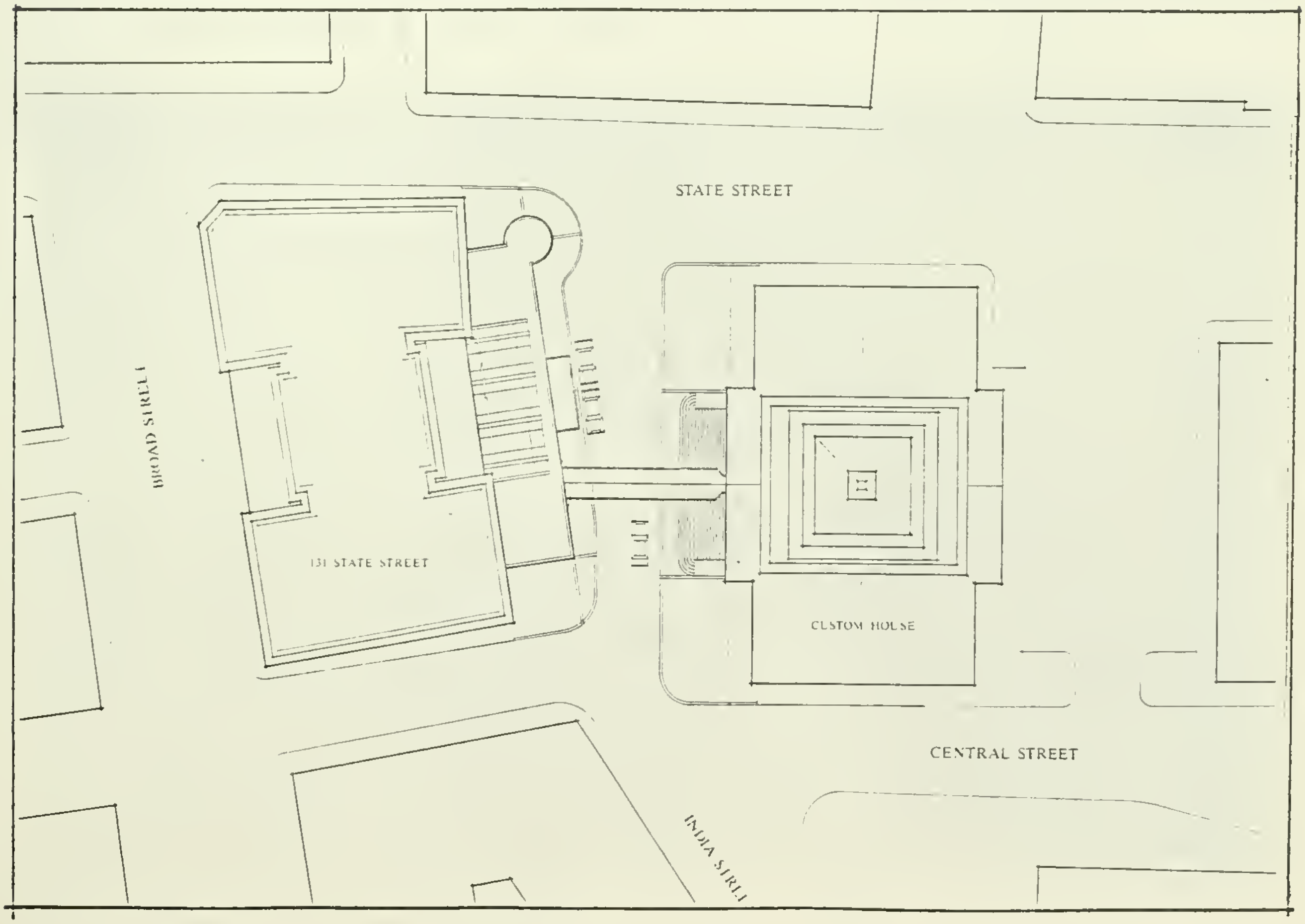
5.1

Pros

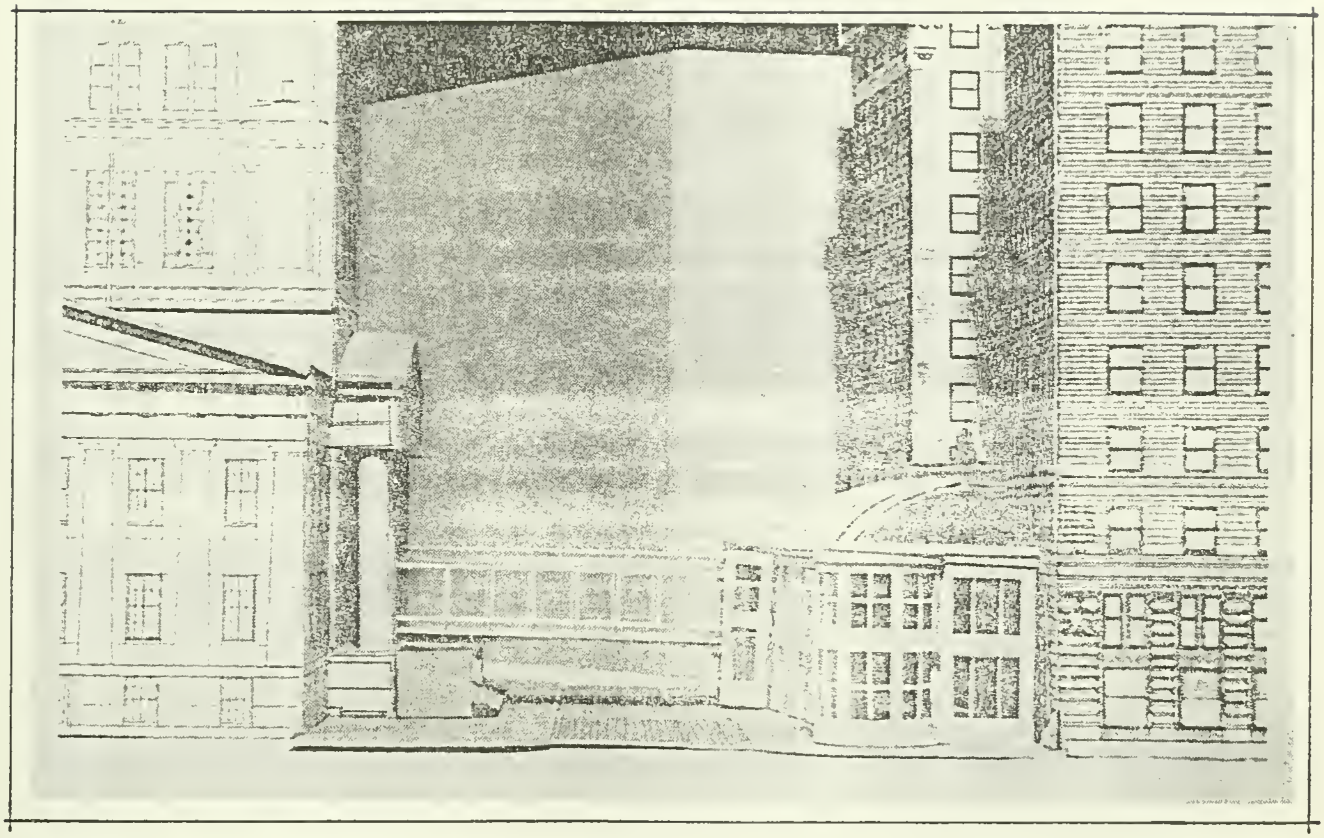
1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Bridge into center of Custom House portico allows minimal, reversible connection to the Custom House w/minimal alterations to existing building.
5. Places visual impact on least historically significant building.
6. Bridge into center of portico allows hotel guests to enter at Custom House's most monumental space.
7. Bridge at this location respects the strong symmetry of the Custom House.

Cons

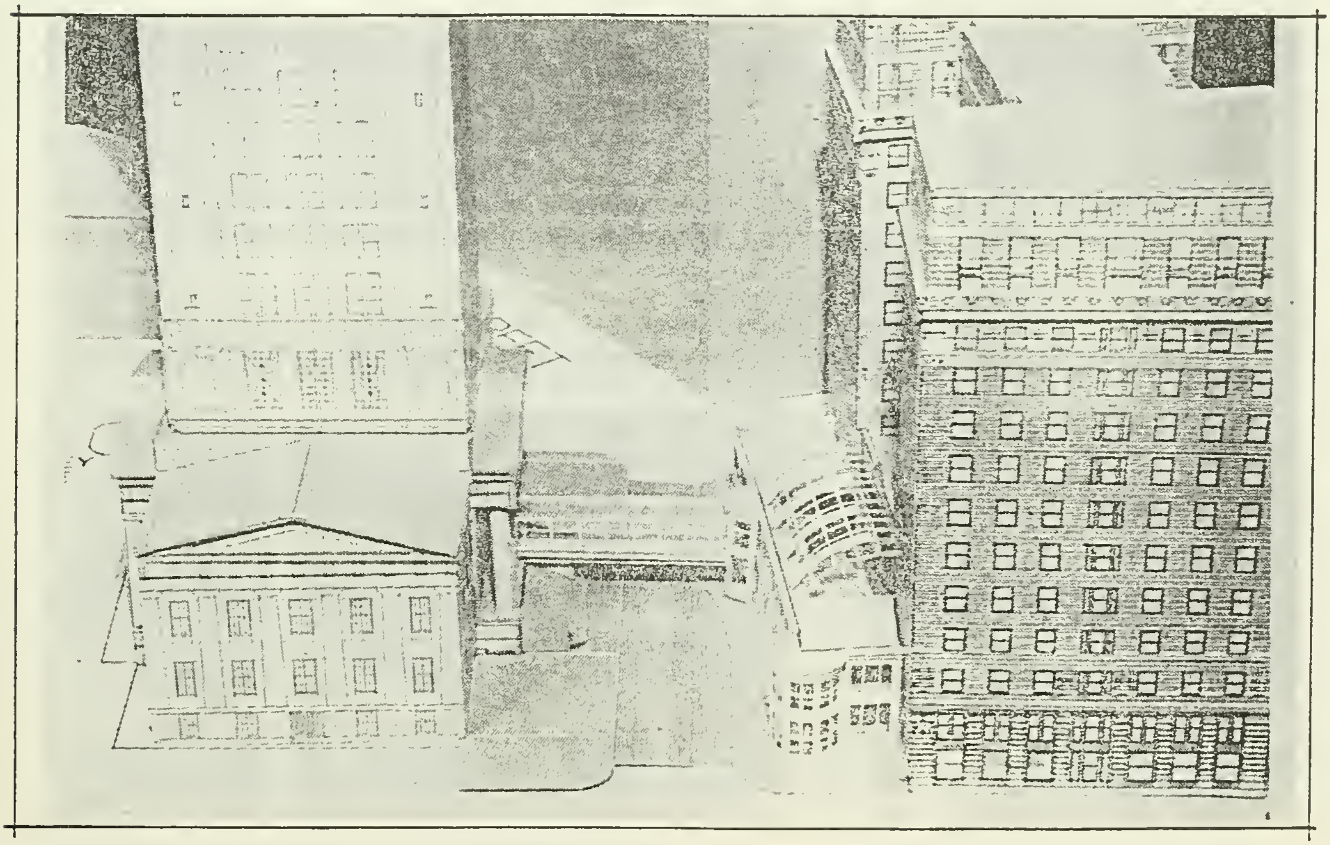
1. Glass lobby addition partially obscures lower facade of the Board of Trade Building as seen from State Street.
2. Bridge in this location obscures view of Custom House facade from State Street.



Site Plan



Eye Level View From State Street



Aerial View From State Street

Addition to Board of Trade Building with Bridge into Custom House Along Central Street

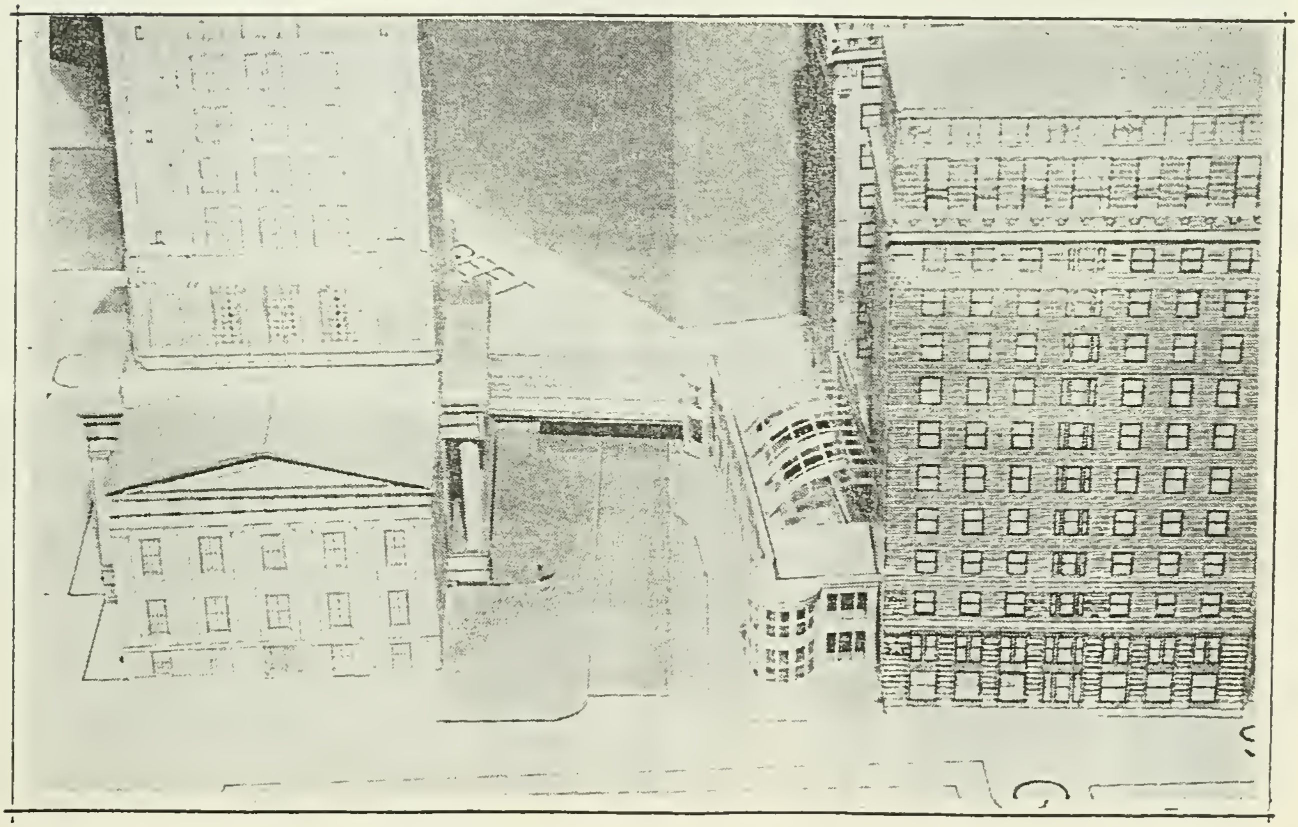
5.2

Pros

1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Allows minimal, reversible connection to the Custom House.
5. Places visual impact on least historically significant building.
6. Least obstruction of Custom House facade viewed from State Street.

Cons

1. Glass lobby addition partially obscures lower facade of the Board of Trade Building as seen from State Street.
2. Bridge in this location requires alteration of existing Custom House window.
3. Because of location of elevator bank in the Custom House, this bridge location creates a confusing, circuitous route between hotel lobby and guest rooms in the Custom House.
4. Entrance into the Custom House at this location disrupts large historic conference/meeting rooms planned there. This is one of only two large, column-free spaces within either building.



Aerial View From State Street

Addition to Board of Trade Building with Bridge into Custom House Along State Street

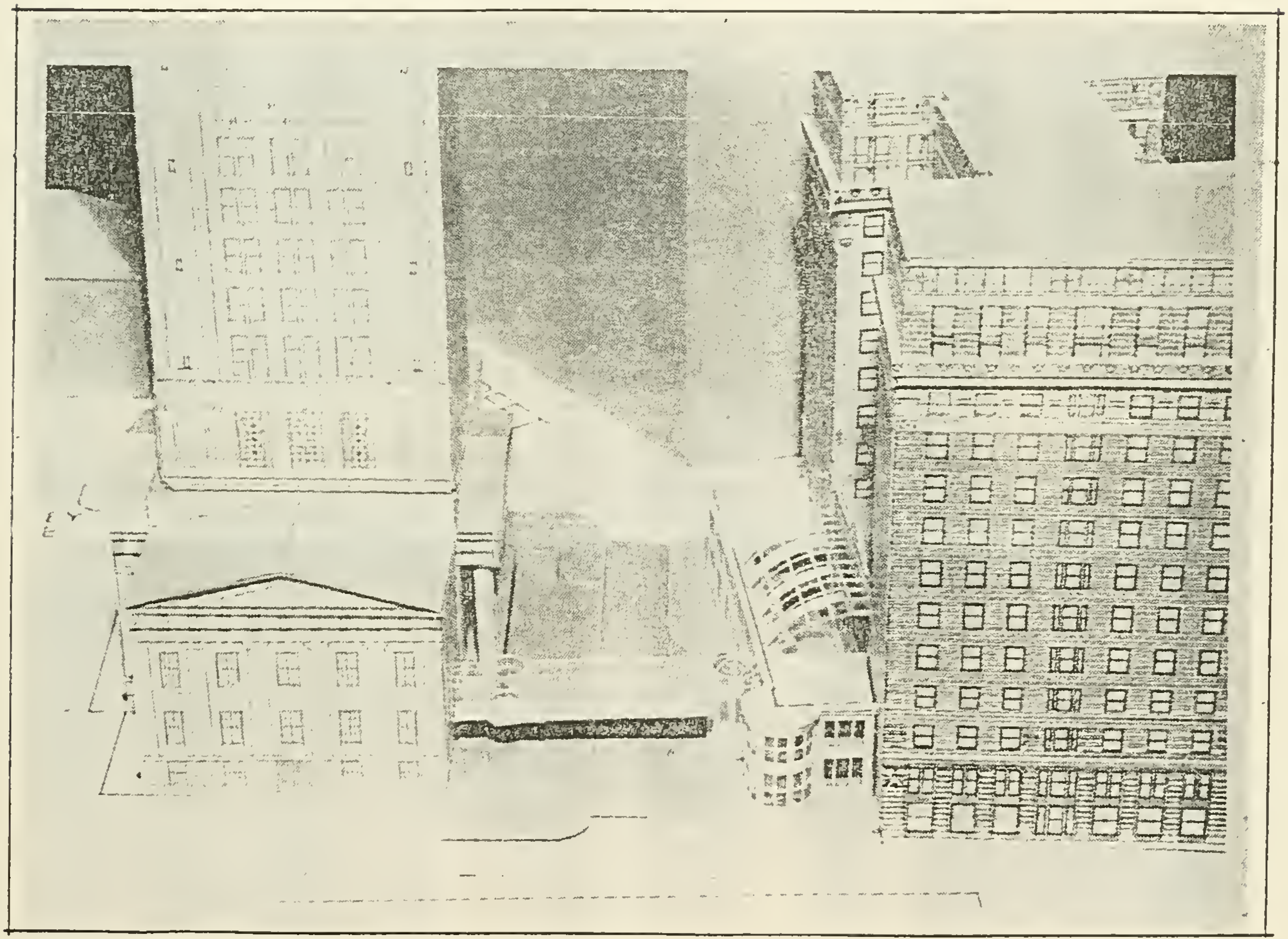
5.3

Pros

1. Leaves more of India Street open for pedestrian and vehicular traffic than any other above-grade option.
2. Creates a hotel lobby area which is appropriate in configuration and scale.
3. Allows existing historic Custom House stairs to remain in place.
4. Allows minimal, reversible connection to the Custom House.
5. Places visual impact on least historically significant building.
6. Provides shortest path to elevator banks in each building for hotel guests.

Cons

1. Glass lobby addition partially obscures lower facade of Board of Trade Building as seen from State Street.
2. Bridge in this location obscures view of the Custom House facade from State Street.
3. Bridge in this location disrupts sense of space between the Custom House and the Board of Trade Building.
4. Bridge in this location requires alteration of existing Custom House window.



Aerial View From State Street

F. INFRASTRUCTURE SYSTEMS COMPONENT

F. INFRASTRUCTURE SYSTEMS COMPONENT

1. The area utilities plan is attached as Exhibit II.

2. Please refer to comment 3.2 provided in this section.

3. The following are answers to the issues raised in the Boston Water and Sewer Commission's letter dated July 19, 1991:

   1) The preferred hotel design configuration contains the above-ground connector.

   2) The following is a comparison of projected water demand and sanitary flow with past demand and flow and the explanation of the large differences between the total estimated water demand (82,000 gpd) and the estimated sanitary sewage flow (42,000 gpd):

      Note: Calculations are based on updated information and may differ from those illustrated in the DPIR.

I. Sanitary Sewer Comparison

A. Existing Conditions

1) Custom House
115,000 sq feet
X .075*
8,625 gallons/day

2) 131 State Street
167,000 sq feet
X .075*
12,525 gallons/day

Total Sewage Out Flow 21,150 Gallons/Day

B. New Hotel Complex

1) Guest Rooms
340 Rooms
X 110*
37,400 gallons/day

2) Restaurant
285 Seats
X 35*
9,975 gallons/day

3) Laundry
3 Machines
400*
1,200 gallons/day

Total Sewage Out Flow 48,575 Gallons/Day

* Sewage Estimated Flows as Outlined in Department of Environmental Protection Requirements.

II. Domestic Water Comparison

A. Existing Conditions

1) Custom House
8,625 gallons/day
X 1.15 Factor-Office/Bldgs.
9,920 gallons/day

2) 131 State Street
12,525 gallons/day
X 1.15
14,400 gallons/day

3) Custom House AC Load
No Air Conditioning
Provided

4) 131 State Street AC Load
375 tons X 3 X .015 = 16.8
16.8 gpm X 10 hrs X 60 min =
10,125 gallons/day (average)

Total Water Usage 34,445 Gallons/Day

B. New Hotel Complex (Totals for both Buildings and Link)

1) Guest Rooms
37,400 gallons/day
X 1.25 Factor for Hotels
46,750 gallons/day

2) Restaurants
9,975 gallons/day
X 1.25
12,470 gallons/day

3) Laundry
1,200
X 1.5
1,800 gallons/day

4) Air Conditioning Load
600 tons X 3 X .015 = 27 gpm
27 gpm X 16 hrs X 60 min =
25,920 gallons/day

Total Water Usage 86,940 Gallons/Day

III. Differentials

A. Sanitary

1) Existing	21,150 Gallons/Day
2) New	48,575 Gallons/Day
Estimated Additional Sanitary Discharge To Boston Sewer Mains This figure does not include Cooling Tower blow down	27,425 Gallons/Day

B. Domestic Water

1) Existing	34,445 Gallons/Day
2) New	86,940 Gallons/Day
Estimated Additional Water Usage	52,495 Gallons/Day

3) Estimates for water demand usage and sanitary outflow are explained in response to comment No. 2. Cooling Tower 5 estimates are explained in response to comment No. 8.

The Health Club has been deleted from the project at this time.

4) Utility Plans: SK-W-1, SK-W-2, SK-S-1, and SK-S-2 (provided at the end of this section) illustrate existing conditions of water and sewage and the proposed new and relocation of utilities.

5) The intention of this project is to insure that all sanitary waste be directed to the available sanitary sewers.

The Custom House and 131 State Street are existing buildings and the storm drainage discharge should not be affected or changed.

6) Grease Traps-grease traps will be installed in all kitchens, bakeries, and pot sinks as required by the Boston Water and Sewer Commission, State Plumbing Code, and Board of Health requirements. Food Service Equipment areas have not been designed at this time.

7) Water mains and gas mains, will be relocated to accommodate the underground portion of hotel link between Custom House and 131 State Street building. The concept is to collect these utilities in an accessible utility tunnel. All detailed plans will be submitted to the authorities having jurisdiction for approval.

8) HVAC System:

Heating, Ventilating, and Air Conditioning System will be a combination of four (4) pipe fan coil units for Guest Rooms and some public spaces and medium pressure variable air volume (VAV) air handling systems for the public and "back of house" spaces. Areas such as laundry, kitchen, corridors, etc. will be conditioned by single zone constant volume air handling systems incorporating 100 percent outside air to meet ventilation and make-up air requirements. Each air handling system will consist of package air handling unit (containing an evaporator fan, chilled water coil, steam pre heat coil, filters, etc.), return air fan, medium pressure duct distribution, VAV terminal boxes, low pressure duct work, diffuser registers, and grilles.

The heating medium for the project will be "purchased steam" from Boston Thermal Energy Co. The steam will be used directly to heat ventilation air for the building. Further, the steam will be utilized, through high efficiency steam to water heat exchanges, to produce hot water for heating. The hot water will be circulated to heat producing equipment located throughout the building.

The cooling medium for the building will be chilled water. An electric driven high efficiency centrifugal refrigeration plant will generate the chilled water. The plant will consist of two (2) electric centrifugal refrigeration machines (0.65 to 0.70 KW/Ton), two (2) chilled water pumps and two (2) condenser water pumps located in the basement. The Cooling Towers for the building will be located on the roof of 131 State Street and architecturally concealed by screens and louvers integral with the building facade and submitted to the BRA as part of the assign review process.

Air cooled and roof top unit configurations have been investigated and evaluated to provide cooling for this project. Due to the building type, the large cooling load and the tight space constraints of the project, these above options were not pursued. Heating, Ventilating, and Air Conditioning system will utilize water for make-up to the Cooling Towers to compensate for evaporation and blow down. The Cooling Towers represents a total load of 600 tons and require water and sewer service as follows:

Condenser Water Supply Flow Rate	1,800 GPM
Peak Make Up Water Required/Day	16,200 GPD
Peak Cooling Tower Evaporation	12,500 GPD
Peak Cooling Tower Blowdown	4,700 GPD

Because Boston Thermal does not return condensate to their facility, the building is required to cool and discharge the condensate water. As a conservation measure the condensate will be used to provide make up water to the Cooling Towers when required. The steam condensate will be able to provide 15 GPM of make up water for the Cooling Towers when operating at peak. If the Cooling Towers do not require water make up the steam condensate will be discharged to the street sewer system.

9) Water Conservation

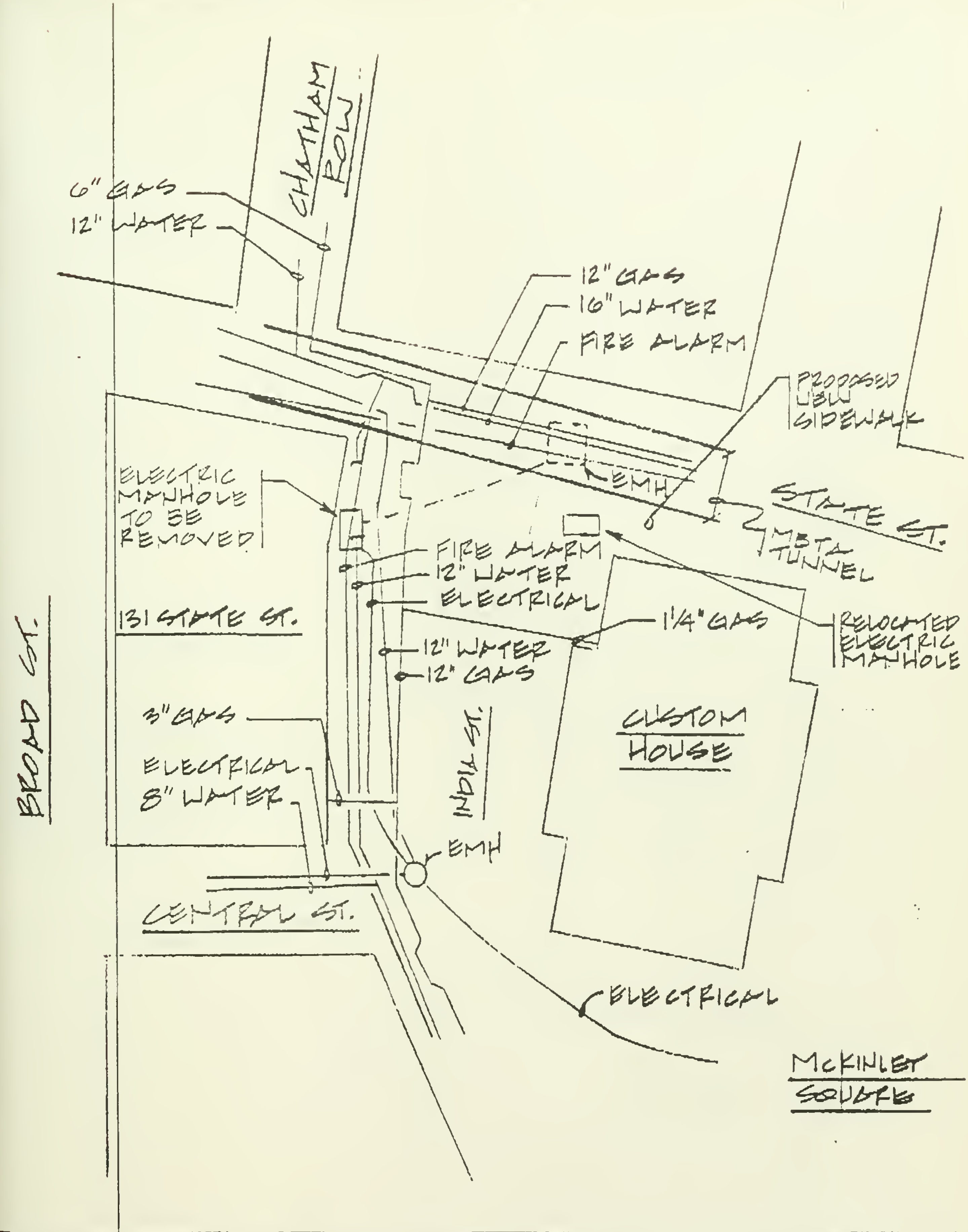
A. Water and Sewer for Plumbing and Fire Protection.

1. All plumbing fixtures installed at this project will be water conserving. (i.e., Water Closets: wall hung and floor mounted will operate on a maximum of 1.6 gallons per flush; lavatories and sinks will be provided with 0.5 gallon per minute flow controls, urinals will operate on 1.0 gallons per flush and showers will operate at 2.75 gallons per minute.)

2. Venturi flow meter will be provided on the fire pump. This will be done to alleviate the waste of water (1,500 GPM) for monthly testing.

4. Exhibit III is Inter•Continental's Corporate Waste Management document. Inter•Continental uses these standards to set up their recycling programs. The proponent is committed to utilize this management program as accurately as possible.

5. HVAC system: Please refer to comment 3.8 provided in this section.



Casentini Associates

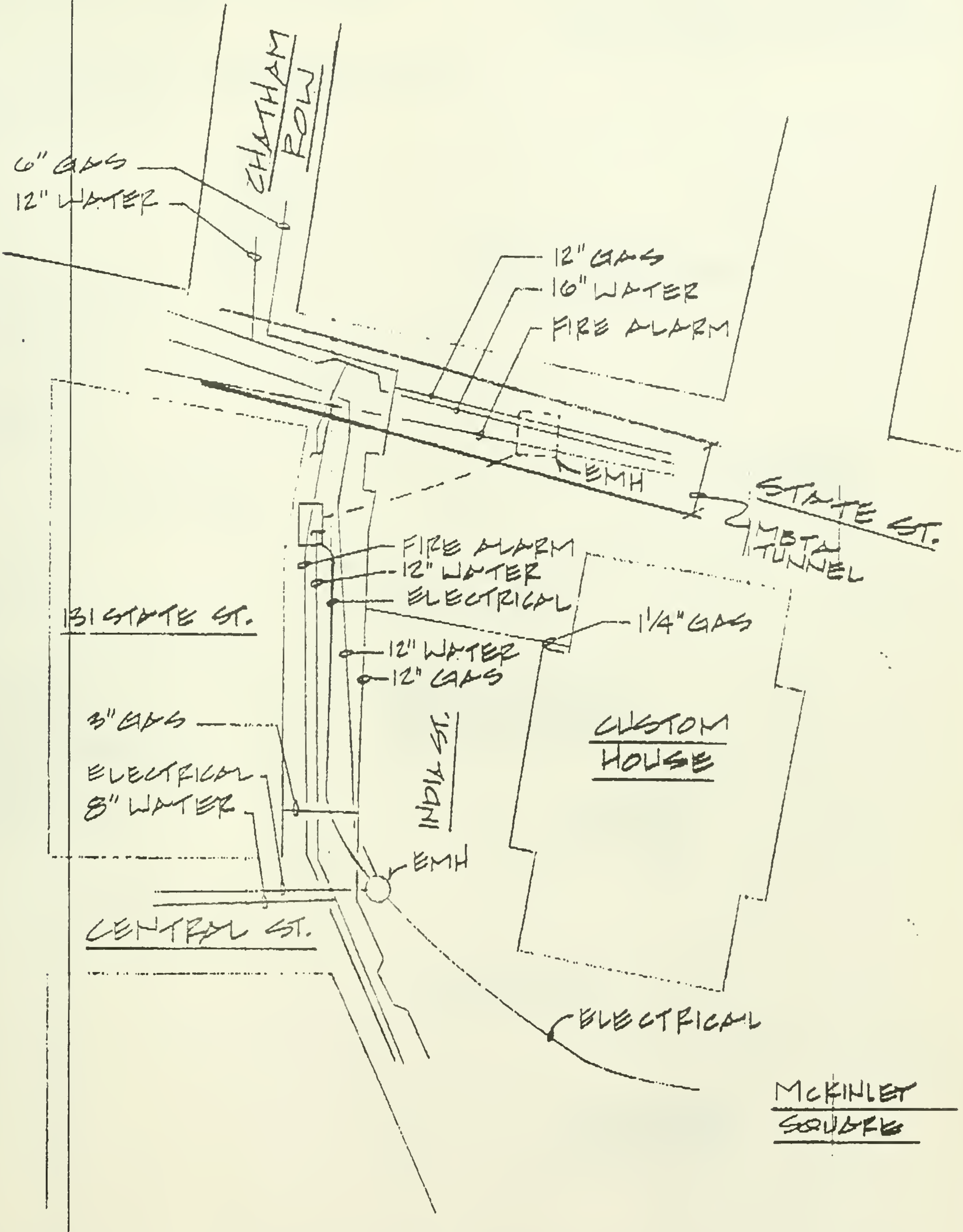
CONSULTING ENGINEERS

JOB NAME:
CUSTOM HOUSE - 131 STATE ST.

TITLE: UTILITIES PLAN - EXISTING SERVICES & RELOCATED EMH

DATE: 13 SEP. 91 DRAWN: D.F. SCALE: NONE

JOB NO: CHECKED: FT DWG. NO: SK-E-1



Cosentini Associates
CONSULTING ENGINEERS
JOB NAME:
CUSTOM HOUSE-131 STATE ST.

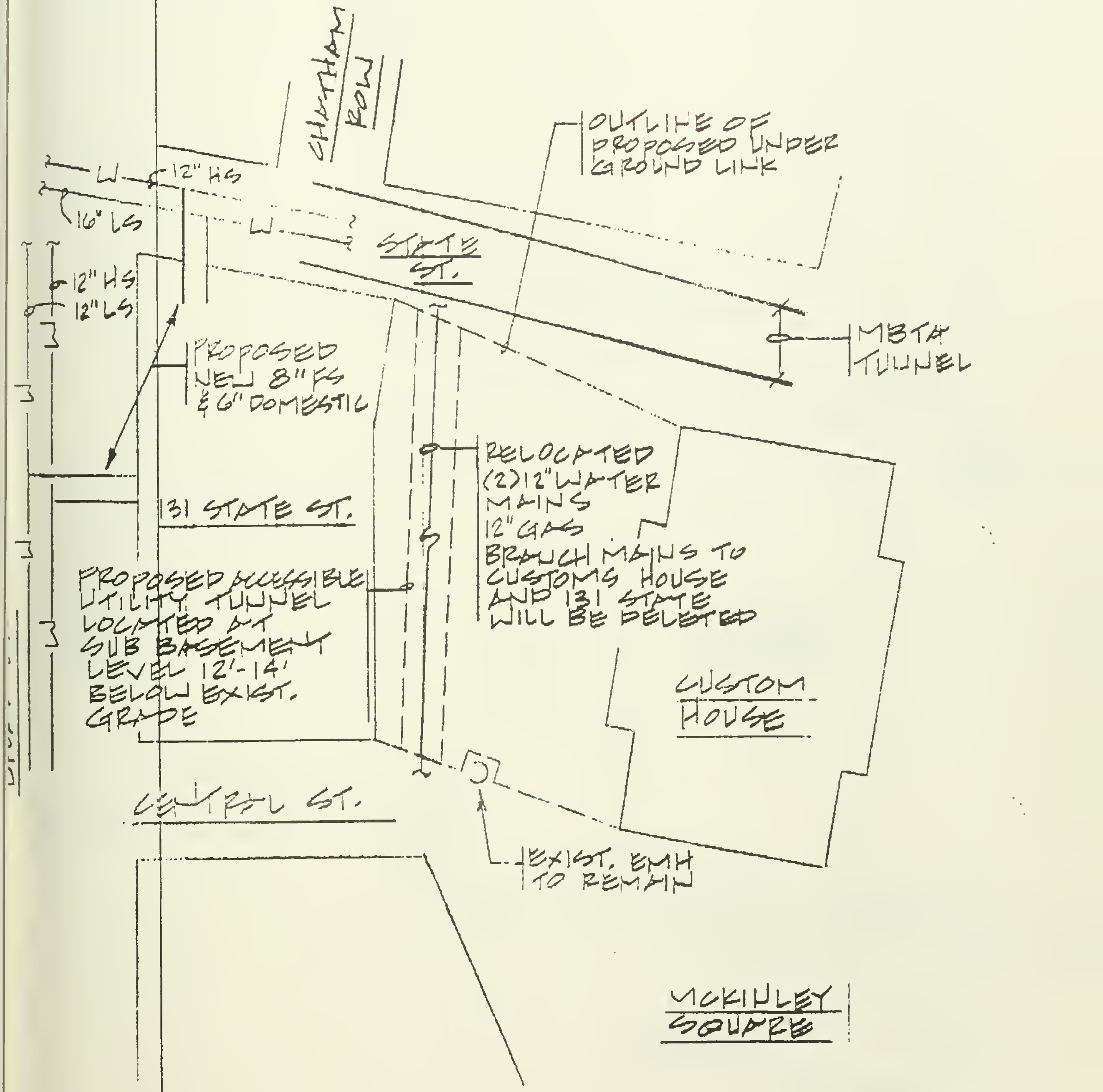
TITLE: UTILITIES PLAN - EXISTING SERVICES LESS SEWERS
DATE: 13 SEP. 91 DRAWN: P.F. SCALE: NONE
JOB NO:
CHECKED: FT
DWG. NO: SK-W-1
]

NOTES:

1.) EXISTING MAINS WILL REMAIN ACTIVE UNTIL NEW UTILITIES ARE INSTALLED.

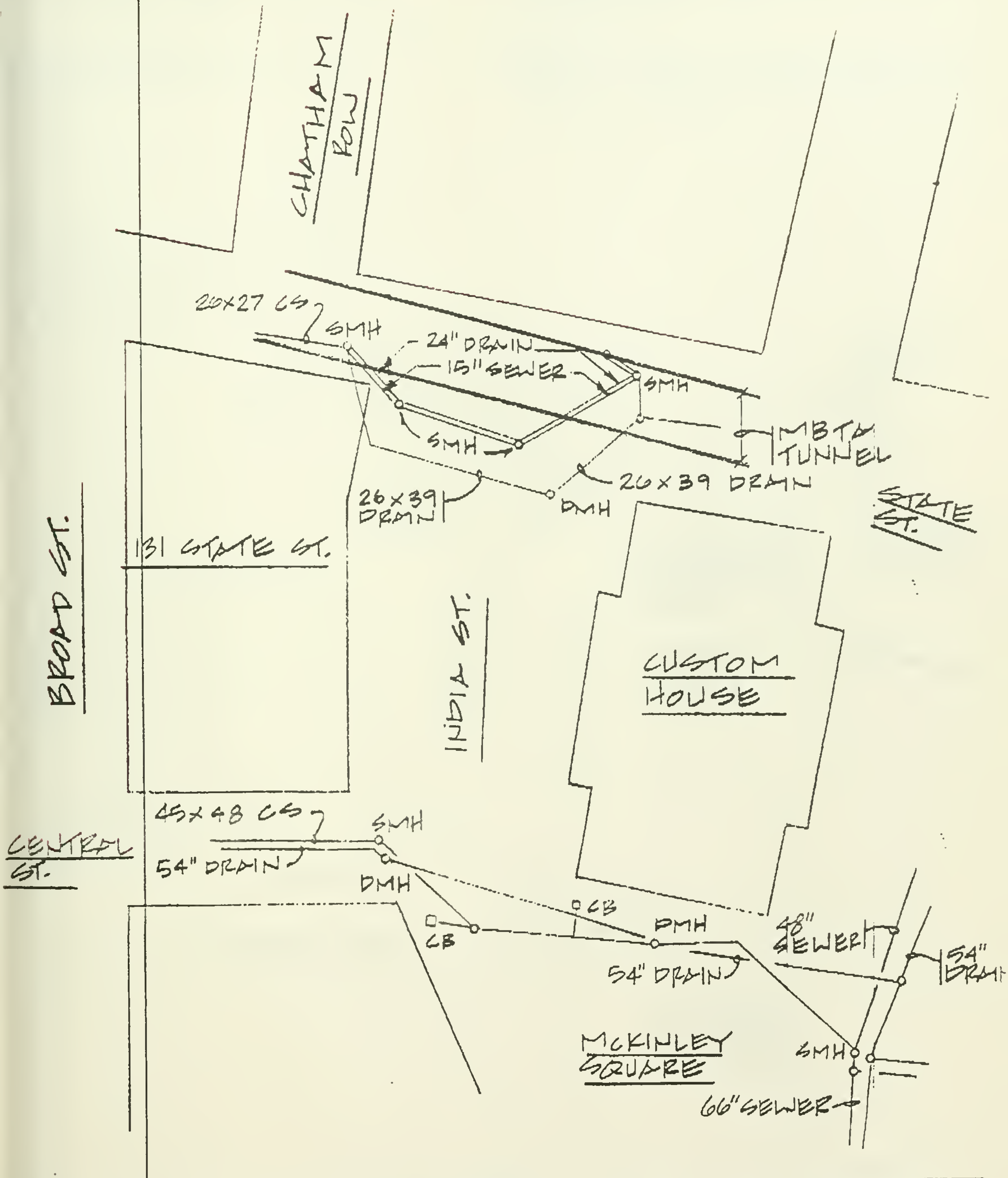
2.) ALL UTILITIES WILL BE REVIEWED BY AUTHORITIES HAVING JURISDICTION.

3.) ALL UTILITIES WILL BE INSTALLED IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.


CHATHAM ROW
OUTLINE OF PROPOSED UNDER GROUND LINK
W
12" HS
16" LS
W
STATE ST.
12" HS
12" LS
MBTA TUNNEL
PROPOSED NEW 8" FS & 6" DOMESTIC
RELOCATED (2)12" WATER MAINS 12" GAS BRANCH MAINS TO CUSTOMS HOUSE AND 131 STATE WILL BE DELETED
131 STATE ST.
PROPOSED ACCESSIBLE UTILITY TUNNEL LOCATED AT SUB BASEMENT LEVEL 12'-14' BELOW EXIST. GRADE
CUSTOM HOUSE
CENTRAL ST.
EXIST. EMH TO REMAIN
McKINLEY SQUARE

Cosentini Associates
CONSULTING ENGINEERS
JOB NAME: CUSTOM HOUSE-131 STATE ST.

TITLE: RELOCATED UTILITIES LESS SEWERS
DATE: 13 SEP 91 DRAWN: D.F. SCALE:
JOB NO: CHECKED: F.G.T. DWG. NO: SK-W-2



Casertini Associates
CONSULTING ENGINEERS
JOB NAME: CUSTOM HOUSE - 131 STATE ST.

TITLE: UTILITIES PLAN SEWERS ONLY
DATE: 13 SEP. 91 DRAWN: D.F. SCALE: NONE
JOB NO: CHECKED: F.T. DWG. NO: SK-S-1

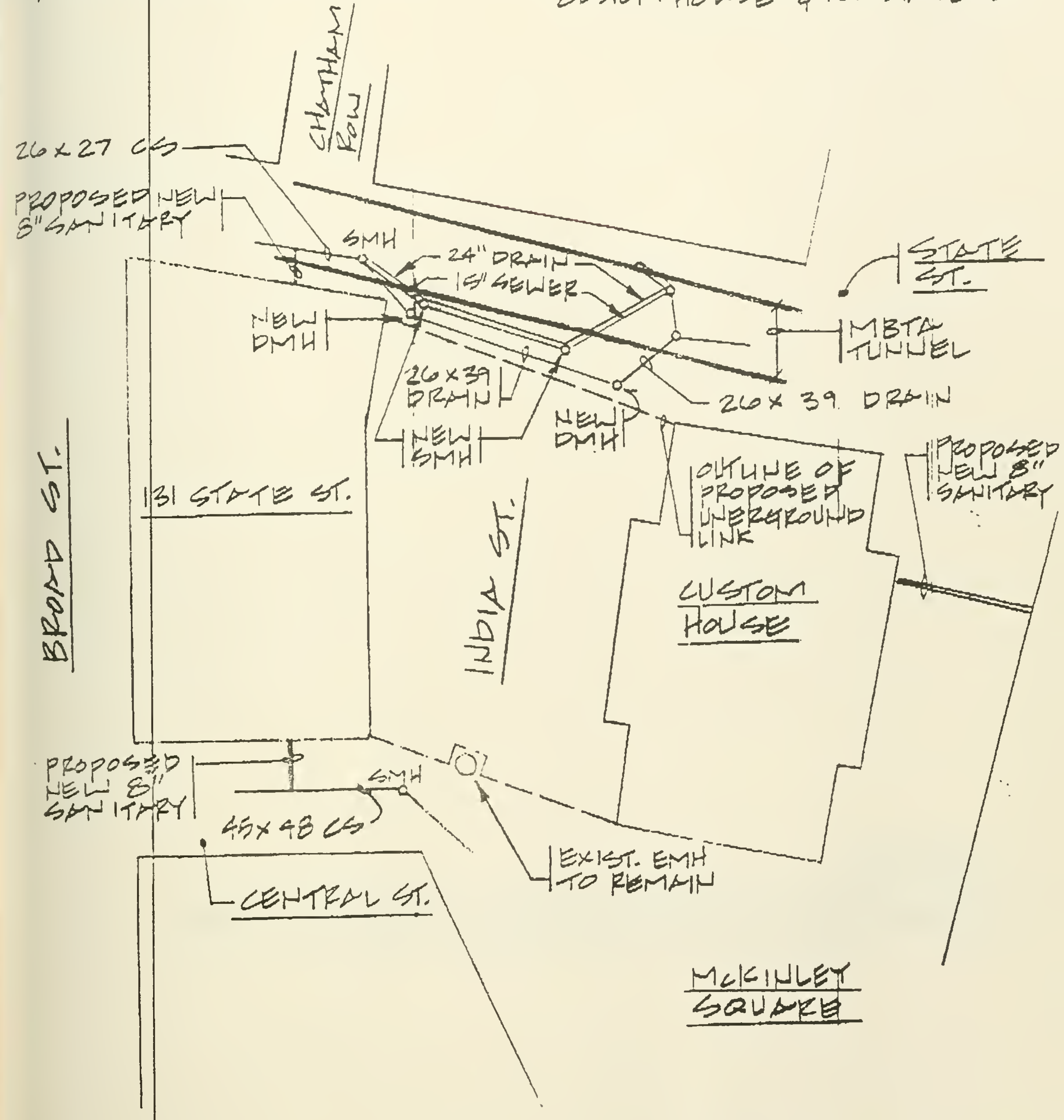
OTES:

EXISTING MAINS WILL REMAIN ACTIVE UNTIL NEW SEWERS ARE INSTALLED.

ALL SEWERS WILL BE REVIEWED BY AUTHORITIES HAVING JURISDICTION

3.) ALL SEWERS WILL BE INSTALLED IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.

4.) STORM DRAINAGE WILL REMAIN AS IS FOR EXISTING CUSTOM HOUSE & 131 STATE ST.



Cosentini Associates CONSULTING ENGINEERS	TITLE: RELOCATED SEWER MAINS
	DATE: 13 SEP. 91 DRAWN: D. F. SCALE: NONE
JOB NAME: CUSTOM HOUSE - 131 STATE ST.	JOB NO: CHECKED: F.G.T. DWG. NO: SK-S-2

EXHIBIT I

PRELIMINARY ADEQUACY DETERMINATION

BOSTON
REDEVELOPMENT
AUTHORITY

Raymond L. Flynn
Mayor

Stephen Coyle
Director

One City Hall Square
Boston, MA 02201
(617) 722-4300

August 5, 1991

Mr. George L. McGoldrick, Jr.
Vice President
The Beal Companies
177 Milk Street
Boston, MA 02109

Dear Mr. McGoldrick:

This letter together with the attached Technical Addendum is the Preliminary Adequacy Determination ("Determination") of the Boston Redevelopment Authority ("BRA") with respect to the Draft Project Impact Report ("DPIR") for the proposed Custom House Hotel project ("Project") which was submitted to the BRA on June 18, 1991, by Beal CH Limited Partnership, Inc. ("Proponent") and which was noticed to the public on June 21, 1991.

The BRA is issuing this Determination pursuant to Section 31-5 of the Boston Zoning Code ("Code"). This Determination requests information required by the BRA for its review of the Project in connection with Article 31 of the Code, Development Review Requirements, which sets forth a comprehensive procedure for the BRA to review the design, transportation, environmental, and other impacts of proposed projects. Article 31 requires the issuance of an Adequacy Determination prior to the issuance of a building permit. The BRA issues an Adequacy Determination upon determining that the Final Project Impact Report ("FPIR") is satisfactory.

The Project involves the rehabilitation of the historic Custom House and the adjacent 131 State Street building into a single hotel property containing 340 rooms. A three-story rooftop addition will be constructed on 131 State Street and a new two-story lobby structure will be added to the front of the 131 State Street building. The Custom House and the 131 State Street building will be connected by a pedestrian bridge at the second floor running from the center of the Custom House west portico to the lobby addition at 131 State Street. McKinley Square will be closed to through traffic and India Street will be reconfigured to accommodate the lobby addition and to increase sidewalk area.

The Project is situated within the Government Center/Markets District, which is governed by Article 45 of the Code, which was adopted by the Zoning Commission on March 8, 1991. Under the provisions of Article 45, the Project is an allowed use. The proposed three-story addition to the 131 State Street building appears to be in compliance with the 155-foot height limit which applies to this location. Therefore, no

zoning relief is anticipated for the Project.

The Custom House and portions of its interior are designated as a Boston Landmark. Therefore, certain review authority to approve work to the building is held by the Boston Landmarks Commission ("BLC") as well as by the Massachusetts Historical Commission ("MHC") under Section 106 of the National Historic Preservation Act (36 CFR 800) and MGL Chapter 9, Sections 26-27c. The BRA is working closely with both these agencies to coordinate, to the extent feasible, the review of the Project.

DEVELOPMENT REVIEW REQUIREMENTS - ARTICLE 31

In reviewing the DPIR, the BRA has identified certain components which are insufficient to meet the requirements set forth in the Scoping Determination ("Scoping") and has identified additional information which the BRA requires prior to the issuance of an Adequacy Determination. This Determination includes a description of the sufficiency of the materials submitted in the DPIR and enumerates materials which you must include in the FPIR.

Because the Project involves little new construction, the resultant environmental impacts have been minimized. The Secretary of Environmental Affairs issued a Certificate on the Environmental Notification Form for the Project on December 7, 1990, which waived the requirement of an Environmental Impact Report. The two primary areas of impact detailed in the Determination which do require close study are the transportation impacts of the Project and the safeguards for the appropriate restoration and maintenance of the historic Custom House.

But for the specific clarifications, corrections and additional information described in the attached Technical Addendum, the DPIR is sufficient to satisfy the Scoping requirements. We look forward to reviewing the FPIR.

Sincerely,

Stephen Coyle
Director

attachments

TECHNICAL ADDENDUM
PRELIMINARY ADEQUACY DETERMINATION
CUSTOM HOUSE HOTEL

GENERAL INFORMATION COMPONENT

Each of the elements submitted in the General Information Component of the DPIR is sufficient to satisfy the Scoping requirements.

TRANSPORTATION COMPONENT

The overall traffic conditions at the study intersections, in terms of level of service ("LOS"), will remain generally satisfactory in the build condition. The Project will, however, degrade the LOS at three unsignalized intersections during one or more peak times compared to the no-build scenario. Under these circumstances, a reasonable effort will have to be made by the Proponent to minimize the trip generation of the Project, particularly during the P.M. and weekend peak hours. The maintenance of pedestrian safety is also a top priority, given the proximity of Faneuil Hall/Quincy Market and other tourist attractions to the Project.

The Boston Transportation Department ("BTD") will draft a Transportation Access Plan Agreement ("TAP Agreement") for execution between the Proponent and the City of Boston. The TAP Agreement will detail trip abatement measures designed to help preserve LOS at nearby intersections (such as a hotel shuttle to Logan Airport), parking arrangements, site access (taxis, loading, deliveries, etc.), and pedestrian improvements related to the Project.

Continued coordination is necessary between the Proponent, the BRA, BTD, and the Massachusetts Bay Transportation Authority ("MBTA") to ensure that the McKinley Square design adequately accommodates the proposed new Blue Line Aquarium Station west headhouse and the City's fire lane requirement, as well as the needs of the Project, and to ensure that State Street conforms to the dimensional requirements set forth by the BTD.

When the Project's exterior design (including site plan) and the TAP Agreement are finalized, the Proponent should present to the Public Improvement Commission a petition for all the street discontinuances and curb cuts required in connection with the Project. The preservation of vehicular right-of-way on India Street is a prerequisite to BTD approval.

Construction management issues will be particularly important with the Project because of nearby construction related to the Central Artery depression and the MBTA Aquarium Station improvements. The Proponent should prepare a Construction Management Plan as soon as practicable and submit it to the BTD for approval.

Each of the elements submitted in the Transportation Component of the DPIR is sufficient to satisfy the Scoping requirements, except for the following items, which should be addressed in the FPIR:

1. Page 23 was missing from the transportation report;

2. A.M., P.M., and Saturday peak hours were not specified;

3. The reduction in volume for the right turn from State Street onto India Street from 180 movements/hour (existing condition, figure 2) to 80 movements/hour (1994 no-build, figure 6) should be explained.

ENVIRONMENTAL PROTECTION COMPONENT

Each of the elements submitted in the Environmental Protection Component of the DPIR is sufficient to satisfy the Scoping requirements, except for the following item, which should be addressed in the FPIR:

1. Depth of excavation and of the groundwater level should be specified.

URBAN DESIGN COMPONENT

Each of the elements submitted in the Urban Design Component of the DPIR is sufficient to satisfy the Scoping requirements.

HISTORIC RESOURCES COMPONENT

As part of the Article 31 process, the Proponent must submit a Historic Structures Report ("HSR") on the Custom House. The Proponent has previously submitted the portion of the HSR describing the building's history and significance, as well as an evaluation of the current physical condition of the building. The DPIR included an update on the physical condition of the building. The FPIR must include the final portion of the HSR, which describes the proposed work in the building and describes how the proposed actions will affect the building's historic fabric (items (a) through (f) in the Scoping). The HSR will also be reviewed by the MHC, the BLC, and the Advisory Council on Historic Preservation ("ACHP") in accordance with a letter of understanding dated August 11, 1988.

In addition, the HSR should enumerate anticipated deviations from the historic

preservation standards established by the Secretary of the Interior and the BLC, reasons for the deviations, and the impact of the deviations on the historic fabric of the Custom House.

The final portion of the HSR must also include an evaluation of the extent and nature of archeological resources present in the Project area, as well as a plan for mitigating damage to significant archeological sites. The Proponent should contact Mr. Steve Pendery, City Archeologist, at 725-4416 for assistance in this matter.

The flashing on the 20th and 25th floor decks does not appear to be addressed in the Gilmore Report included in the DPIR.

Except for the items mentioned above, each of the elements submitted in the Historic Resources Component of the DPIR is sufficient to satisfy the Scoping requirements.

INFRASTRUCTURE SYSTEMS COMPONENT

Each of the elements submitted in the Infrastructure Systems Component of the DPIR is sufficient to satisfy the Scoping requirements, except for the following items, which should be addressed in the FPIR:

1. No area utilities plan was included in the DPIR, as required by the Scoping;

2. No documentation is provided to support conclusions regarding the capacity and adequacy of existing water and sewer systems to serve the Project;

3. The Proponent should address the issues raised in the Boston Water and Sewer Commission's letter dated July 19, 1991, a copy of which is attached to this Determination;

4. Discussion of recycling of materials should relate to the operation of the completed Project, not the construction period as described in the DPIR;

5. The FPIR should include a more thorough discussion of the HVAC system for the Project and of practicable means to minimize the size and visibility of equipment located on the roof of the 131 State Street building.

AGREEMENTS

The documents listed below must be submitted in form and content satisfactory to the appropriate signatory public agencies before the Project can receive final approval from the BRA. They are not required for the FPIR.

1. Transportation Access Plan Agreement with the Boston Transportation Department;

2. Construction Management Plan in conformity with the City's Construction Management Program;

3. Boston Residents Construction Employment Plan pursuant to Chapter 12 of the Ordinances of 1986 of the City of Boston, as amended by Chapter 17 of said Ordinances, and Executive Order Extending Boston Residents Job Policy, signed by the Mayor on June 12, 1985;

4. First Source Agreement and Memorandum of Understanding with the Office of Jobs and Community Services regarding permanent job opportunities in the Project;

5. Development Impact Project ("DIP") Plan and Agreement with the BRA in a form consistent with the requirements of Articles 26A and 26B of the Code;

6. Financial disclosure statement filed with the BRA in a form consistent with the requirements of MGL Chapter 40, Section 40J, and Article 31A of the Code.

Boston Water and
Sewer Commission

425 Summer Street
Boston, MA 02210-1700
617-330-9400
Fax 617-330-6167

July 19, 1991

Mr. Juan Loveluck
Boston Redevelopment Authority
9th Floor
Boston City Hall
One City Hall Square
Boston, MA 02201

Re: Custom House/131 State Street DPIR

Dear Mr. Loveluck:

The Boston Water and Sewer Commission has reviewed the Draft Project Impact Report (DPIR) for the proposed redevelopment of the Custom House and 131 State Street building.

This project involves the redevelopment of the Custom House and adjacent 131 State Street building into a 340 room hotel. Function areas, restaurants, retail and cultural space for use by the public will be included in the structures. A rooftop addition and a small addition to the India Street side of 131 State Street are proposed, as is a connector link between the Custom House and 131 State Street.

The proponent estimates that total water demand for the project will be about 80,785 gallons per day (including cooling tower use). Sanitary sewage generation will be about 41,250 gallons per day.

The Commission submitted comments concerning this project to the MEPA Unit in November of 1990. In December of 1990, the Secretary of Environmental Affairs determined that an Environmental Impact Report would not be required for the project. Therefore, the Commission requests that the following concerns be addressed in the Final Project Impact Report.

1. The FPIR should indicate which hotel design configuration is the preferred alternative.

2. A comparison of projected water demand and sanitary flow with past demand and flow should be provided. The proponent should explain the large difference between the total estimated water demand (82,000 gpd) and estimated sanitary sewage flow (42,000 gpd).

3. Estimates of water demand and sanitary flow for each building should be provided as well as a breakdown of water use by category, i.e. hotel use, health club, conference space. A separate calculation of water required for air conditioning make-up water should also be provided.

4. A utility plan should be provided to the Commission which shows the water and sewer systems which serve the site and the location of existing service connections. An evaluation of the water and sewer systems' capacity to handle the anticipated flows should be included.

5. The Commission will require the proponent to construct separate sanitary and storm water services from the buildings to the sewer system, if separate services do not already exist. The proponent should evaluate options for extending the separate sanitary and storm drain services to the Commission's separate sanitary and storm drains systems.

6. The Commission will require the proponent to install restaurant grease traps in accordance with the Commission's Sewer Use Regulations. The proponent is advised to submit the plans for the grease trap(s) to the Commission for review, prior to installation. The plans for the grease trap(s) should be forwarded to Mr. Eugene Favret, Supervisor for the Grease Trap Program.

7. Two water mains are currently located in India Street. The proponent should state specifically whether relocation of the mains is proposed. If so, detailed relocation plans should be provided to the Commission for review.

8. If steam use is planned, the proponent should evaluate options for reuse of steam condensate within the development.

9. In addition to the water conservation measures required by the Plumbing Code, the proponent should consider implementing other water saving measures where appropriate.

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, Jr., P.E.
Chief Engineer

ak
cc: R. Beal, Beal Properties, Inc.
G. McGoldrick, Jr., Beal Properties, Inc.
R. Mertens, BRA
P.J. Foley, BWSC
S. Shea, BWSC
E. Favret, BWSC
R. Kobayashi, MWRA

BOSTON
TRANSPORTATION
DEPARTMENT

July 15, 1991

Custom House Hotel Access Plan
BTD Comments

The overall traffic conditions at study intersections, in terms of levels of service, will remain satisfactory in the build condition. The project will have an impact, however, as shown by the number of intersections which are degraded by a level of service between the no-build and the build scenarios. Under these circumstances, a reasonable effort will have to be made to minimize the trip generation of the project, particularly in the PM and weekend peaks.

Maintenance of pedestrian safety is also a top priority, given the proximity of Quincy Market and other tourist attractions.

The BTD will draft an Access Plan Agreement for execution between the developer and the City. It will cover trip abatement measures (such as a hotel shuttle to Logan Airport), parking, site access issues (taxis, loading, deliveries, etc.), and pedestrian improvements.

Continued coordination is necessary between the developer, the BRA, the MBTA and the BTD to ensure that the McKinley Square design adequately accommodates the new Aquarium station headhouse and emergency vehicle access, as well as the design objectives of the hotel; and that the design of State St. is in accordance with agreed-upon guidelines.

When exterior design and an Access Plan Agreement are finalized, the developer should present to the Public Improvements Commission a petition for all of the discontinuances needed in connection with the project. The preservation of vehicular right-of-way on the India St. frontage is a prerequisite to BTD approval of the project.

Construction management will be particularly important with this project, with the Central Artery project and the MBTA work going on nearby. The developers should begin immediately to prepare a Construction Management Plan and to submit it to the BTD for approval.

RAYMOND L. FLYNN, MAYOR
RICHARD A. DIMINO, COMMISSIONER

5045T

Boston
Landmarks
Commission

City of Boston
The Environment
Department

City Hall Room 805
Boston Massachusetts 02201

July 17, 1991

Mr. Juan Lovello
Boston Redevelopment Authority
Boston City Hall
Boston, MA 02201

Re: Custom House Board of Trade Draft Project Impact Report

Dear Juan:

The staff of the Boston Landmarks Commission has reviewed the Draft Project Impact Report submitted by the Beal CH Limited Partners, Inc. for the redevelopment of the Custom House and the Board of Trade Building. The DPIR did not include the information requested in the Historic Resources Component of the PNF scoping letter dated February 20, 1991. Due to these omissions, the staff has concluded that a number of issues, described below, were not adequately addressed.

The staff expects that the Custom House Historic Structures Report will sufficiently identify the project's impact on the Custom House. However, the impact of the project on 131 State Street, the Board of Trade Building was not addressed as required in sections E(a) and E(b) of the Scoping.

There is no description of the Project site and its significance to the Custom House National Register District as requested in section E(c). Historic resources in the surrounding area have not been identified as required in section E(d). The project is located within the Custom House National Register District. A number of highly significant historic buildings abut the Custom House and the Board of Trade Building including the State Street Block at 177-199 State Street, the Central Wharf Buildings at 146-176 Milk Street, the Flour and Grain Exchange at 177 Milk Street, the Insurance Exchange Building at 24-44 Broad Street and the Broad Street Associates Buildings located throughout the Custom House District. Attention must be given to the impact of the project on the surrounding environment.

Section E(e) of the scoping requests an assessment of potential impacts on archaeological resources. This was not included in the DPIR. The project proponent must consult with Steven Pendery, the City Archaeologist, regarding the assessment of the project impacts on archaeological resources.

Finally, there is no discussion of how the Project complies with the Secretary of the Interior's Standards or the BLC Standards and Criteria as well as [illegible]. This project appears to deviate from these standards. Thus, a summary of the deviations, the reasons they are necessary, and the impacts of the deviations on the historic fabric of the Custom House should be included.

For the aforementioned reasons, the staff has determined that the Historic Resources Component is not adequate and should be resubmitted. The Final Project Impact Report should address each issue listed in the scoping letter.

The Boston Landmarks Commission has received an application for a Certificate of Design Approval for the Custom House and the Board of Trade Building. The hearing is scheduled for July 23, 1991 at 5:00pm.

Thank you for the opportunity to comment.

Sincerely,

Michael A. Cannizzo, AIA

Michael A. Cannizzo, AIA
Staff Architect
Boston Landmarks Commission

cc:Downey
MHC
BPA
SAH

mac:1482E17

City of Boston
The Environment
Department

July 16, 1991

Mr. Juan Loveluck
Boston Redevelopment Authority
9th Floor
City Hall
Boston, MA 02201

RE: Custom House Draft PIR

Dear Mr. Loveluck:

The Draft Project Impact Report on the Custom House submitted by the Beal Companies neglects to describe the project impact on archaeological resources. These are expected to consist of waterfront archaeological sites dating to the colonial and federal period underlying India Street. Subsurface construction in India Street threatens these resources.

The project proponent should prepare background historical research that describes the extent and nature of these resources and presents a plan for mitigating project impacts to significant archaeological sites. I would be pleased to direct the proponent towards appropriate repositories of documents, maps, etc.

Sincerely,

Steven R. Pendery
City Archaeologist

cc: M. Cannizzo, BLC
A. Pugsley, Env. Dept.

Air Pollution Control Boston Art Back Bay Architectural Beacon Hill Architectural Boston Landmarks and the Conservation Commissions

EXHIBIT II

UTILITY SURVEY

SEE MAP
IN POCKET

EXHIBIT III
HOTEL WASTE MANAGEMENT PROGRAM

WASTE MANAGEMENT

Topic: Background **March 1991**

History

Modern civilisation generates enormous volumes of waste. While our ancestors disposed of very little, the concept of 'disposable' or 'throw-away' products is very much today's norm. The understanding of the growing problem of disposal of waste has gradually increased, partially due to the negative effects on our environment and quality of life. As a result, the management and minimisation of waste has become a priority.

Objectives

To achieve efficient waste management, we need to address three key processes:-

The reduction of the quantity of waste produced, by avoiding the purchase of disposable and over-packaged goods, and by encouraging industries to change production processes to generate fewer unusable by-products.

The reuse of items in their original form for the same or a different purpose. Examples include refillable bottles, cloth towels and laundry bags, washable napkins and rechargeable batteries. Voluntary and private sector organisations also accept used goods for restoration and resale.

The recycling or the extraction of waste materials to meet a market demand through systems such as source separation, centralised composting, and the processing of mixed waste to recover useful materials.

The '3 R's' - 'Reduce', 'Reuse', and 'Recycle', form a useful slogan, which targets the appropriate areas to be addressed in hotel waste management systems.

Our objectives in achieving this programme are to:

- save materials, resources and energy;
- reduce the amount of waste disposed;
- save money.

These objectives will be achieved through the introduction of recycling and waste management programmes in Inter-Continental's hotels worldwide, measurably reducing waste and generating increased awareness of this problem among our employees, suppliers, the general public and our guests.

Implementation

Each hotel will conduct an internal waste audit to assess the feasibility of starting a recycling and waste reduction programme. A committee must be established specifically to investigate and action waste reduction and recycling programmes within the hotel. The chairman of the committee will also participate as a member of the Environmental Committee. (See also : section Introduction)

The process of recycling

The collection of recyclables through designated containers is known as 'separation at source,' and is only the first step in the recycling process in which recyclables are collected, sorted, and sold for processing into new products.

Recycling's two primary approaches

1. reusing waste items:
   directly for the same function or another;.

2. reprocessing waste items:
   to make the same or similar product, ie old newspapers into new newsprint (outside facilities must exist for reprocessing and it is limited by accessibility to such facilities, economics and the quality of the reprocessed material).

NOTE: Recycling programmes are easily established but fairly complex to run successfully. Some important guidelines are as follows:

- as a rule, the nearer to the origin of waste that recovery occurs, the less sorting and processing needed before the material can be recycled;

- the cleaner the waste product the higher the price obtainable;

- organic wastes destined for the compost pile should be free of inorganic waste and substances toxic to plants;

- paper rapidly loses its value when mixed with other waste or refuse. Newspapers must be free of other waste products (particularly food or organic waste) in order to be effectively recycled.

WASTE MANAGEMENT

Topic: Background **March 1991**

Common recyclables and the resulting products

Aluminum:
cans and foil are separated from steel cans with magnets, then shredded, de-lacquered and melted down to make various aluminum products, including cans. 95% of recyclable aluminum can be utilised. The energy required to recycle aluminum is only 5% of the amount required for initial production.

Fine paper:
collected from offices and schools is cleaned, re-pulped and mixed with varying percentages of virgin pulp, then made into paper used in the manufacture of boxboard, tissue, printing and writing papers, newsprint, and liner-board.

Food and organic materials:
such as kitchen and yard waste, can be composted into a soil conditioner for application on lawns and gardens. Systems exist for the recycling of meat scraps into fertilizer and animal feed.

Glass:
bottles and jars are crushed to make 'cullet'. The cullet is mixed with sand, limestone and soda ash, materials normally used to make new glass, and melted in a high-temperature furnace. The molten glass is then moulded into new containers. Other current uses of waste glass include the manufacture of fibreglass, glass beads for reflective paint, and certain road and sewer building materials.

Plastic:
soft-drink bottles, milk and water jugs and laundry-product bottles, all made of various resins, must be sorted and converted into resin pellets. The pellets are then usually melted and moulded into a desired shape. Some of the products made from used resins include drain pipes, plastic bags, non-food containers, lids on non-food containers, insulation, flower boxes, clothes pins, automobile bumpers, rope, carpet backing, and household appliances. Mixed plastics can be processed to produce 'plastic lumber'. Shredded PET (polyethylene terephthalate) soda bottles can be used as fibrefill for quilts, pillows, sleeping bags and coat linings.

Steel cans, or 'tins':
because of the protective tin coating on the steel, are de-tinned and fed into steel-making furnaces. The steel can be used to make new cans and almost any kind of familiar consumer product, from refrigerators to cars. However, tin cans make up only a small percentage of recycled steel. Other sources include old cars, appliances, farm equipment and industrial scrap.

WASTE MANAGEMENT

Topic: Procedures **March 1991**

Introduction

The Waste Management Committee will investigate and action recycling programmes in as many areas as practically possible. While for example the separation and sale of kitchen waste as animal food is frequently practised in many underdeveloped countries, the infra-structure may be lacking for some of the sophisticated methods of recycling, (paper, glass, etc).

One of the more complex recycling programmes is for fine paper. The way to implement such a programme is detailed below. It is an example for other similar exercises.

A fine paper recycling programme

Determining recycling potential:

Resource requirements:
- a regular supply of recyclable materials;
- a system to collect, sort, package and transport;
- end-markets for processing into useful products.

Organisation:
1. Although almost all paper is recyclable, most successful programmes concentrate on the recovery of only one or two types or 'grades' of fine paper. Commonly used grades include:
- computer paper (18" wide tab);
- white ledger paper (bonds, photocopy, laser, deposit slips and 8 1/2" x 11" computer paper).
- coloured ledger paper (coloured bonds and photocopy, carbonless forms and cheques).
- office mixed paper (ledger papers plus onion skin, some envelopes and manila file folders).
- mixed paper (hotel mixed paper plus magazines and newspapers).

2. Market prices and stability are highest for computer paper and lowest for mixed paper. Mixing grades reduces the value to that of the lowest grade in the mix. With most paper brokers (people who buy paper), even a few sheets of the lower grade are sufficient to downgrade the entire lot. Brokers are interested primarily in clean loads of high grade papers and may be unwilling to pick up lower grades unless there is a reasonable volume of higher grades.

3. Most paper brokers will not pick up quantities of less than about 220 kgs (550 lbs) of high grade paper, so you will need to have space to store at least that much between pick-ups.

With regard to storage, a space 1m x 1m x 1.2m (about 3' x 3' x 4' high) will accommodate between 100 and 250 kgs (220 and 550 lbs) depending upon the grade and degree of compaction.

4. Most successful paper recycling programmes have four things in common. They are:

(1) A capable and enthusiastic coordinator who is involved in all phases of the programme and planning through implementation to on-going operation.

(2) A simple, reliable collection system, usually concentrated on one or, perhaps, two grades of paper.

(3) Secure markets for the paper.

(4) An effective, on-going employee education and publicity programme.

If the hotel operation is too small to run a paper recycling programme on its own, action a joint venture with neighbouring hotels and businesses.

5. Estimate approximate potential quantities:

o **Quick fix:**

Get a 'quick fix' on the quantities and types of waste paper the hotel generates. A conventional office generates about 14 kgs (31 lbs)of waste paper per employee per month. About one third, or 4.3 kgs (9.5 lbs) of this is high grade recyclable paper that can conveniently be recovered. Calculate an **'approximate quantity'** by multiplying by the number of people employed.

Equation: available quantity = (# of employees) x 4.3 kgs (9.5 lbs) = ______/Month

Not every employee is likely to be an active supporter of the programme, necessitating a reduction of this figure using an estimate of the probable **'participation rate'**. Studies suggest that a figure of 65% to 85% is reasonable, so the **'expected quantity'** of recyclable paper will be calculated by multiplying the **'available quantity'** by **'participation rate'**

Equation: expected quantity = (available quantity) x (participation rate) = ______/Month

- **The waste audit:**

  While the 'quick fix' gives some idea of quantities, a more accurate picture of the total recyclable waste available must be estimated. Utilise the attached 'Waste audit record' to perform the waste audit. It involves identifying paper waste generation points, the type and quantities of paper involved and the locations at which paper might be accumulated for removal to a central pick-up point for the broker. Emphasis must be placed on the separation of high grade paper from lower grades, if maximum value is to be maintained.

  - Waste haulage contractor:
    Collect information on present waste handling arrangements. Note this information under 'Special notes' on the 'Waste audit record' or on a separate sheet of paper. Summarise present waste handling in the areas of:

  - waste haulage contractor (name):
    - types, sizes and numbers of containers provided;
    - frequency of pick-up;
    - costs/ton and pick-up;
    - special services (eg shredding of documents);

  - Cleaning service (own staff or contract):

    - types and sizes of equipment used;
    - frequency and times of waste collection;
    - charges (fees or salary costs);
    - special services (eg bulk pick-ups).

With this information prepare a preliminary estimate of the benefits and costs likely to be associated with a paper recycling programme.

Designing the recovery system

Hotels vary in physical configuration and in the ways they operate, therefore it is unlikely that any one paper recovery system will work for every location. Some brokers will design a system and may provide the containers needed. However, knowledge of a few underlying principles and techniques for paper segregation and collection can simplify the task of designing an effective system for the hotel or of evaluating proposals.

The principles are:

- Accumulate at a central point, from which the broker or its

WASTE MANAGEMENT

Topic: Procedures **March 1991**

Waste audit record

Hotel: Prepared by: Date:

Generation site	Type of waste	Estimated quantity	Temporary storage	Comments
Accounting				
Business Centre				
Computer				
Engineering				
Executive Office				
Front Office				
Guest Rooms				
Housekeeping				
Kitchen				
Mail Room				
MIS				
Photocopy Room				
Sales Office				
Stewarding				

Consolidation		Notes:
Computer paper A		
White ledger B		
Coloured ledger C		
Office mixed D		
Mixed paper E		
Total		

Computer paper: 18" wide
White ledger: white bond; photocopy paper; laser paper; deposit slips; letter-sized computer paper.
Coloured ledger: colour bond; photocopy paper; cheques; carbonless forms.
Office mixed: ledger; onion skin; envelopes; manila file folders.
Mixed paper: office mixed; magazines; newspapers.

agent can conveniently collect the paper waste. Usually this is at the hotel loading or receiving dock. There must be sufficient space for storage of containers between pick-ups and access to the containers must be clear and safe. In addition, space must be available for compactor/baler, if required.

o Fire and other safety regulations must be followed. This includes ensuring protection from fire at intermediate and final storage points, keeping clear all aisles and fire routes, and providing appropriate equipment for the compacting, lifting and transportation of collected materials.

o High volume, high value paper generation should provide the focus for the system, with other grades of paper accommodated through subsidiary arrangements. Establish methods to collect, store and transport the large quantities of computer or copy paper generated where computer and copiers are located. Then work out ways to collect the recyclable paper generated at individual work stations. With respect to segregation and collection there are two basic methods:

1. Source separation
   In this method, appropriately sized storage containers are provided in areas where computer printers or photocopiers are located. Each is marked with a description of the type of paper to be placed in it. Similar containers may also be placed centrally in areas containing a number of work stations, ie reservations, accounting or sales. All are asked to place specially marked containers and other waste in regular bins or wastebaskets.

   These special containers are emptied by cleaners or other designated employees and the recyclable paper is transferred to the location from which the contractor collects it.

   Staff are asked to separate their discards, placing recyclable paper in the special containers and the remaining trash in regular waste receptacles.

2. Contract separation:
   This method places the onus on cleaners (staff or contract) to separate recyclable paper from the other waste. Paper generated in offices is simply placed in regular wastebaskets. Cleaners, using carts equipped with two waste compartments (usually lined with plastic bags or with one plastic bag for trash and one reusable bag for recyclable paper) pick through each waste basket as they empty it, placing recyclable paper in one compartment and trash in the other. As

the bags are filled they can be set out in a hallway or next to the elevator for transportation to the storage area. If wheeled bins are used to transport recyclables on the elevator, the reusable bags are emptied directly into them and the bags returned to the cleaner's cart. The plastic bags of trash are usually tied and stacked for transport.

NOTE: Ensure the programme is discussed with the housekeeping department, night cleaners and employees who will be expected to participate. The more convenient the system is for them, the greater the level of success.

Selecting a paper broker

As with any commodity, the market for recyclables fluctuates. Today, markets for recyclables are generally enjoying a renaissance and in developed countries there are firms interested in picking up and, often paying for waste paper.

The services available vary from broker to broker, but the more provisions provided by the broker (containers, compactors, balers, etc), the lower the price paid for the paper. In establishing the recycling system, a balance has to be maintained between the services that a broker offers versus how complex the system is to operate for the staff. While taking less services from the broker will improve the price paid per volume of paper, by increasing the complexity of the staff actions, the recycling programme will be less likely to succeed.

Before a broker will make a commitment to the hotel, he or she will wish to review the quality of your recyclables.

The prices and length of agreement and conditions are important considerations.

Selecting a recycling coordinator

No recycling programme starts and operates successfully without some special attention. The attention must come from the highest levels of the organisation in the form of personal endorsement and demonstrated organisational support. The support takes the form of:

- allocation of company resources;
- funds for appropriate equipment and promotional material;

and more importantly:

- one or more people designated to coordinate.

The Coordinator

The programme coordinator needs to have some organisational and management skills and experience and, in particular, strong in-hotel communication skills. The coordinator can be assisted by an employee advisory committee which contribute to the

implementation of promotional activities, monitors progress and recommends corrective actions.

The coordinator's commitment and enthusiasm will be strengthened if he or she is brought into the planning process as early as possible to establish some sense of ownership of the venture. The coordinator should spend a few days to a few weeks getting the program organised and launched, but no more than a few hours a month to monitor it. Qualified and enthusiastic recycling coordinators should be able to save more than their expense.

Justifying the programme - benefits and cost:

Many hotels are reluctant to enter upon a recycling programme until they are convinced that the benefits will justify the costs. To obtain full endorsement include a benefit/cost analysis in the plan.

The analysis will not be based solely on cost savings. There are many other benefits of recycling, including:
- alleviation of waste disposal problems;
- the enhancement of the image of the company as a responsible citizen and employer;
- the additional effect of reduced natural resource consumption and environmental pollution;

The following items must be considered in the cost/benefits analysis: (See attached form).

- Start-up costs:
    - equipment: (bins, etc);
    - promotional materials;
    - additional transportation costs;
    - total of above.

- Annual operating cost:
    - equipment repair/replacement;
    - added janitorial expense;
    - coordinator's time;
    - promotional materials.

- Annual operating benefits:
    - intangible benefits (list);
    - anticipated revenue;
    - decreased disposal cost.

- Total net annual benefits:
    - total annual operating benefits;
    - total annual operating costs;
    - total net benefits.

- Return on investment:
    - total net annual benefits divided by total start-up costs.

Benefits and cost analysis

Start-up costs
Equipment: (bins, etc) $.

Promotional materials $.

Additional transportation cost $.

Total $ ______.______ (A)

Annual operating costs
Equipment repair/ replacement $.

Added janitorial expense $.

Coordinators' time $.

Promotional materials $.

Total $ ______.______ (B)

Annual operating benefits
Intangible benefits (list) $.

Anticipated revenue $.

Decreased disposal cost $.

Total $ ______.______ (C)

Net annual benefits
Total annual operating benefits $. (C)

Less total annual operating costs $. (-B)

Total (C - B) $. (D)

Return on investment
Total net annual benefits (D)/ total start-up costs (A) $. %

Payback period
Total start-up costs (A) / total net annual benefits (D) $. Years

- o Payback period:
  - total start-up costs divided by total net annual benefits.

Encouraging staff participation:

Two groups of people require attention if recycling goals are to be achieved:

1. the staff members who generate the waste;

2. those who must handle it between the point of disposal and the point of pick-up.

All staff should be shown exactly what is to be recycled and what must be eliminated.

- o The 'Kick-off' Memo.
  This memo must announce the programme, describe how it will work and what employees are asked to do; the reason for recycling (saving trees, energy and landfill space) etc.

- o The information session.
  Provide samples of the containers to be used and of both the materials to be recycled and those contaminants to be avoided (eg carbon papers, envelopes with windows, chemically treated papers and all non-paper material, like plastic bindings).

- o Follow-up publicity.
  It is essential that the programme and staff's participation be reinforced regularly, since recycling is a practice which requires some considerable change in individual behaviour. Regular reports to the staff on programme achievements (quantities recovered, costs saved, revenues earned and any problem encountered and solved) go a long way to keeping the programme healthy. These can take the form of executive memos, newsletter articles, displays or posters in the employee cafeterias. Some organisations also circulate articles on waste reduction and recycling that appear in the press, to remind staff that they are part of a larger movement.

  In the short term, the focus of the promotional effort should be the materials to be recycled. After the introduction period, however, some publicity may have to be given to the contaminants that need to be kept out of the recycling process. Remember that a contaminant is any non-recyclable material or any paper that your programme does not include in its collection. The key to avoiding contaminants seems to lie in keeping the programme focused

on only one or two paper grades, labelling bins to identify what should go into them and periodically reminding people about things that should not be included, but have been.

NON-HAZARDOUS WASTE SEPARATION

The environmental committee will research in each hotel location exactly what separated items can be collected by local waste disposal operators. It is pointless to separate waste unless the infra-structure exists for the collection and utilisation of those separated items. Non-hazardous waste separation programmes should be coordinated closely with recycling programmes.

In developed countries, where recycling programmes and waste management is highly developed, waste may have to be separated into as many categories as are indicated below. It is unlikely, however, that it would prove practical in most hotels to address this degree of separation.

Glass:
- bottles (by colour if requested);
- broken windows, clear glass.

Paper:
- computer paper;
- white ledger paper;
- coloured ledger paper;
- newspapers;
- office mixed paper;
- mixed paper (all types mixed).

Cardboard in some countries must be sorted into various grades.

Plastic:
- bottles;
- bags;
- cutlery;
- all broken plastic objects;
- shampoo bottles;
- soap containers;
- all bathroom amenities.

Metal:
- aluminium cans;
- steel or bi-metal cans;
- copper, brass including kitchen utensils and furnishing fittings;
- heavy metal (broken machines).

Food:
- oil;
- wet waste for pig consumption (check local laws).

As indicated above, separation of waste can develop to an extremely detailed degree. What is actually needed in a specific hotel will depend on what specific collecting resources are available to you. As an example, your supplier of bathroom amenities (shampoo, body lotion, bath foam, etc) may be prepared

to accept or purchase back used bottles from you for reuse.

There are two ways non-hazardous waste may be separated:

1. Each department is responsible for sorting out the various categories of non-hazardous waste.

2. Have a special area built in the hotel for waste separation with facilities as below.

   - A table on which all the garbage would be sorted out and pushed from it to a container. This container would then be collected several times a week or on a daily basis.

   - A refrigerated room where all the food/organic waste is stored.

   - A special compactor for cardboard and possibly other paper waste.

   - A place to stock all returnable bottles. All broken or non-returnable bottles to go in a special container which will be collected on a regular basis by the local authority or by a private company..

   (See plan attached)

In most cases, the separation of waste by a hotel will be some combination of the two methods, and depending on the separating needs, each hotel would customise their own procedures.

The figures on the following pages illustrate a conceptual plan for instituting a waste separation and collection programme.

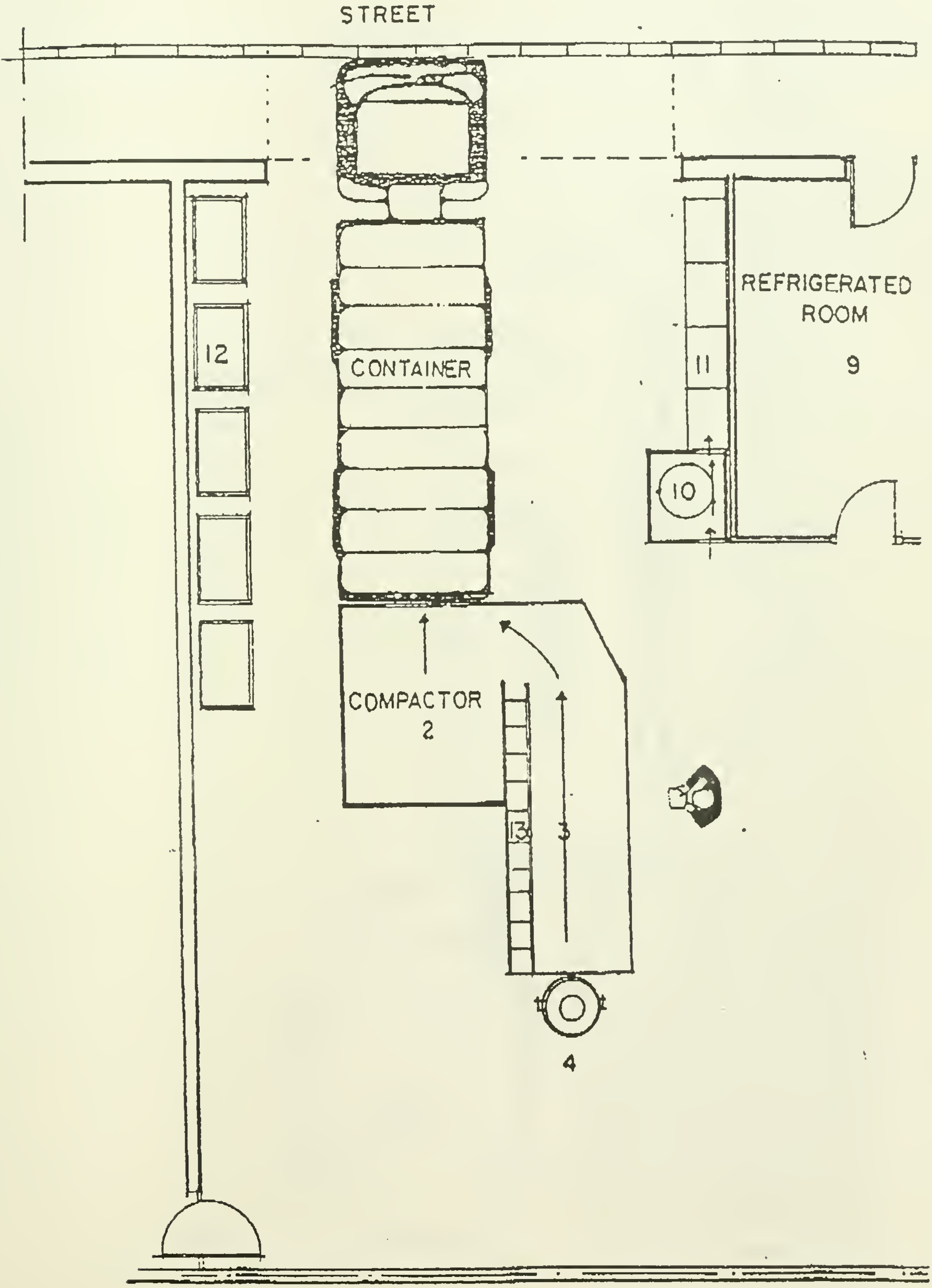
Explanation of hazardous waste conceptual plan

1 Sorted non-hazardous waste container.
2 Compactor.
3 Sorting table.
4 Special machinery for heavy dustbins.
5 Container for non-returnable bottles and broken glass.
6 Container for plastic.
7 Container for silver (cutlery) to be sent back to the Stewarding Department.
8 Container for aluminium.
9 Refrigerated room for:
  - Food for pigs/organic waste;
  - Oil.
10 Compactor for cardboard paper;
11 Cardboard and paper to be collected;
12 Crates with returnable bottles;
13 Gutter equipped with screen.

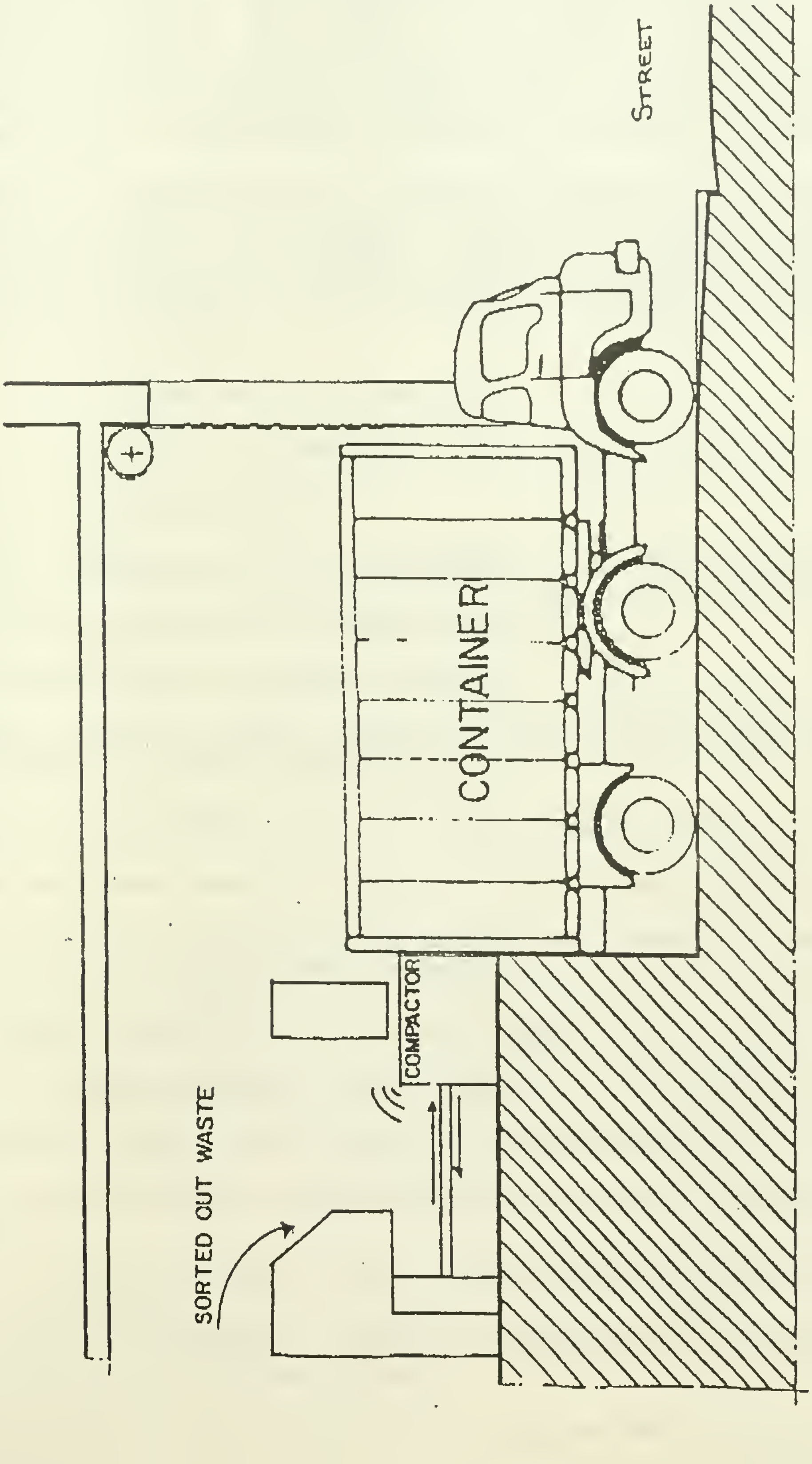
WASTE MANAGEMENT

Topic: Non-hazardous waste separation **March 1991**

Waste separation and collection: conceptual plan.



Waste separation and collection: conceptual plan. Continued



WASTE MANAGEMENT

Topic: Specific action programmes **March 1991**

The following list represents examples of specific actions which will not be universally achievable in all hotels as a result of local constraints. The Environmental Committee will explore additional actions that may be taken, as well as the applicability of the listed actions within a specific hotel. It should be noted that in many cases, the environmentally favourable actions below coincide with the quality image we wish to present (eg cloth/material rather than plastic/paper).

It should be noted that while certain actions may not be possible for various reasons in a hotel, the principle behind the action should be applied. For example, while it is virtually impossible to eliminate the use of plastics, all reasonable steps should be taken to keep plastic use to a minimum, within the constraints of guest satisfaction.

- Utilise rechargeable batteries.
- Avoid excessive packaging, use of foam pellets etc.
- Do not use styrofoam.
- Use cloth/material in preference to paper towels/napkins.
- Do not use plastic wrapping, bags.
- Avoid the use of plastic straws.
- Worn towels, sheets, table cloths etc should be reused as cleaning cloths, dusters etc.
- Use cloth/canvas bags for laundry, shoe shine etc.
- Reduce paper use by utilising circulation slips.
- Use cloth hand towels or hot-air hand dryers in preference to paper towels in public toilets.
- Reduce waste volume by using compactors.
- Use or sell compost, where feasible.
- Reuse computer/other paper as scratch paper.
- Maximise use of computers/electronic mail to reduce paper use.
- Use containers with lids in preference to plastic wrap.
- Donate used/surplus items to charitable organisations in preference to throwing away.
- Utilise reusable glass bottles rather than plastic ones.

WASTE MANAGEMENT

Topic: Specific action programmes; **March 1991**
Hotel cheklist

- o If hotel volume is too small to interest recycling agents/brokers, encourage other companies/buildings to pool resources.
- o Reuse leftover pads/pencils from meeting rooms - eg by employees.
- o Use live trees for Christmas/holiday celebrations, that can be replanted after use.
- o Utilise mugs in preference to paper cups; paper cups rather than styrofoam.
- o Recycle:
  - paper
  - glass
  - cardboard
  - plastic
  - metal
  - food waste
- o Review how to reduce usage. It is much better and cost effective to minimise the use of items rather than attempt to resolve effective methods of disposal.
- o Use refillable containers for soap, cleaners, foods, etc.
- o Sell back partially used soaps to soap manufacturer for re-milling, or donate to shelters etc.
- o Use straw, shredded paper or other natural, degradable items for packaging.

HOTEL CHECKLIST

The following checklist should be utilised to review the opportunities available to the hotel to REDUCE the use of items, to REUSE wherever possible, and to RECYCLE those items which are possible within local constraints. Additionally, there is the opportunity to look at whether items should be REPLACED with alternatives.

Hotel check-list

	REDUCE	REUSE	RECYCLE	REPLACE
HOTEL PRODUCT USED				
Aerosols				
Air Conditioner				
Aluminum				
Appliances				
Batteries				
Bedding				
Bleach				
Bleach Bottles				
Brochures				
Cans-Aluminum				
Cans-Tin				
Carpet Remnants				
Cleansers				
Clothing				
Computer Paper				
Cooking Oil				
Corrugated Boxes				
Detergent Boxes				
Dishes				
Disposable Diapers				
Disposable Pens				
Drain Cleaner				
Facial Tissues				
Fertilizers				
Fine Paper				
Food-Meat Waste				
Food-Non Meat Wastes				
Food-Packaging				
Furniture				
Glass Bottles				
Laundry bags				
Leaves/Grass Clippings				
Light Bulbs				
Magazines & Books				
Matches				
Mattresses				
Medicines				
Menus				
Metal				
Mirrors				
Motor Oil				
Newspapers				
Office Equipment				
Oil-kitchen				
Oven Cleaner				
Packaging				
Paints & Solvents				
Paper Cups				
Paper Towels				
Pencils				
Pens-non refillable				
Pens-refillable				
Pesticides/Herbicides				
Plastic Bags				
Plastic Bottles				
Plastic Buckets				
Plastic Shower Curtains				
Pots and Pans				
Printed Matter				
Rooming Booklets				

Hotel checklist (continued)

HOTEL PRODUCT USED	**REDUCE**	**REUSE**	**RECYCLE**	**REPLACE**
Shampoo				
Shoe bags				
Stationery				
Sterno				
Styrofoam				
Tissue paper				
Toxics				
Windowed envelopes				
Wood				
Xerox paper				
NOTE:				

Use this form, as is, or add items to it. The purpose is to help evaluate the environmental impact of products used often in your hotel and to assist in determining the proper method of disposal.

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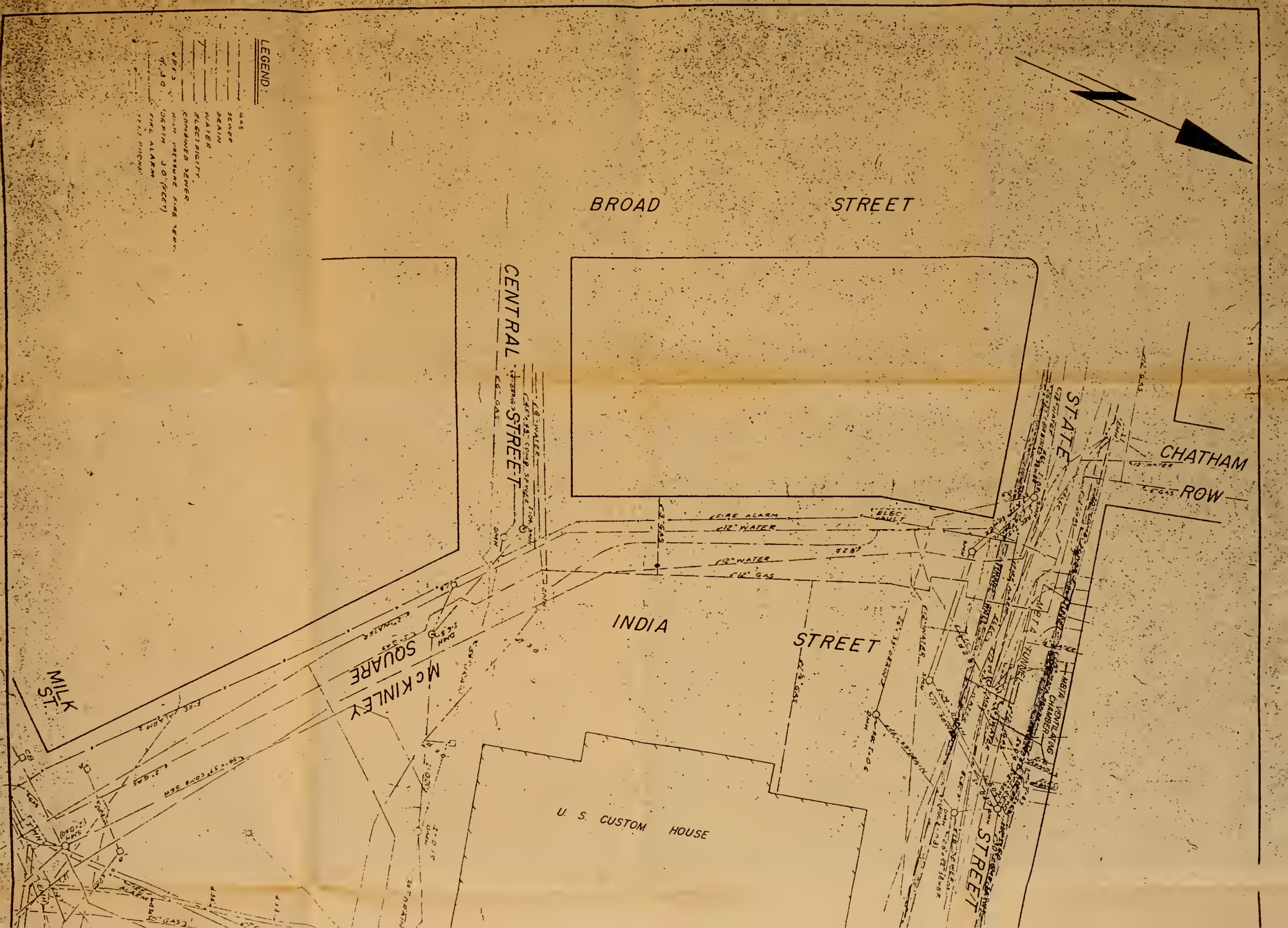
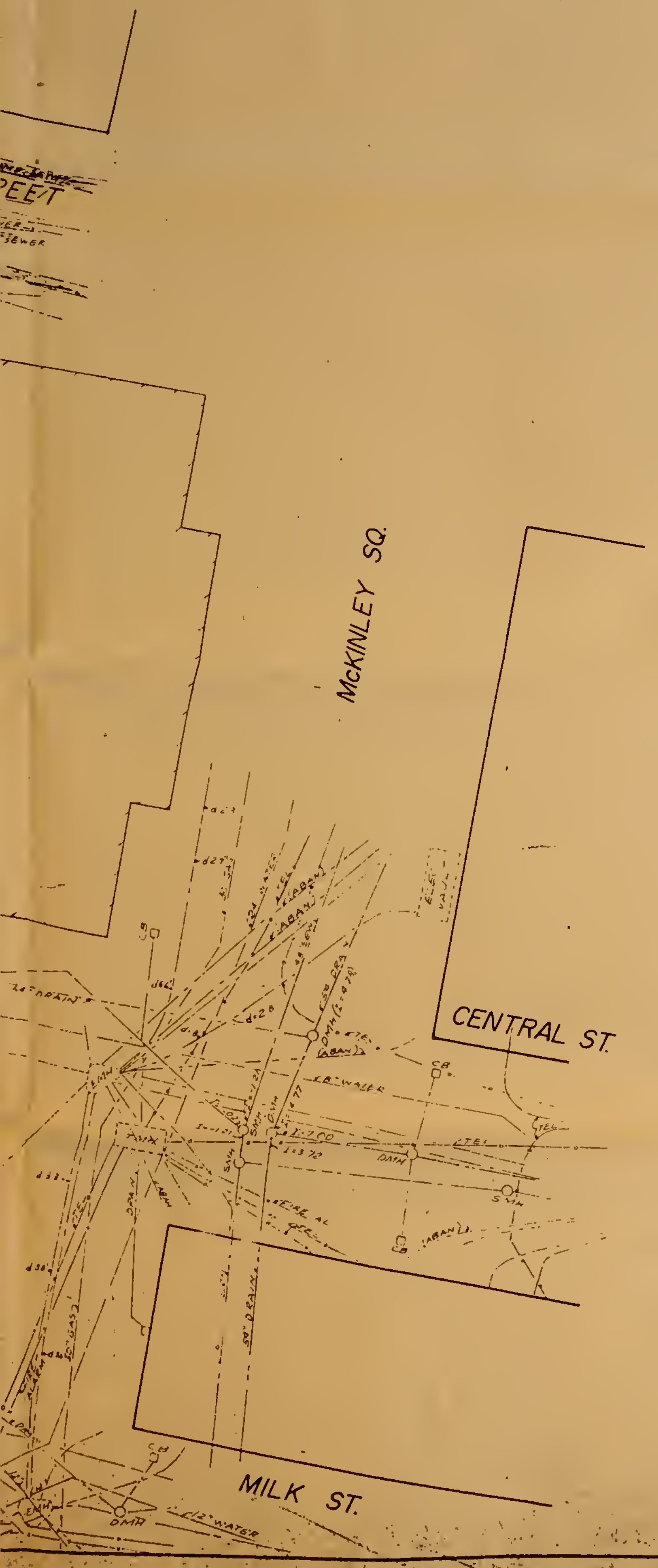

LEGEND:
GAS
SEWER
DRAIN
WATER
ELECTRICITY
COMBINED SEWER
HPFS HIGH PRESSURE FIRE SERV.
D.J.O. DEPTH J.O.' (FEET)
FIRE ALARM
TRAFFIC SIGNAL
BROAD STREET
CENTRAL STREET
12" WATER
COMB. SEWER
6" GAS
CHATHAM ROW
12" WATER
6" GAS
STATE STREET
12" GAS
FIRE ALARM
ELEC. VAULT
12" WATER
8" GAS
12" WATER
12" GAS
INDIA STREET
MBTA VENTILATING CHAMBER
MBTA TUNNEL
ELEC.
12" WATER
DRAIN
DMH
SMH
6" GAS
MILK ST.
McKINLEY SQUARE
FIRE ALARM
10" GAS
U. S. CUSTOM HOUSE



NOTES:

1. UTILITY INFORMATION SHOWN IS BASED ON PLANS OF RECORD. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFOREMENTIONED RECORD PLANS AND ARE APPROXIMATE ONLY. BEFORE PLANNING FUTURE CONNECTIONS THE PROPER UTILITY ENGINEERING DEPARTMENT SHOULD BE CONSULTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES SHOULD BE DETERMINED IN THE FIELD. CALL TOLL FREE DIG SAFE CALL CENTER 1-800-322-4844, 72 HOURS PRIOR TO EXCAVATION.

2. ELEVATIONS REFER TO BOSTON CITY BASE.

3. GAS LINES ARE NORMALLY 4' DOWN FROM THE SURFACE.

4. WATER LINES ARE NORMALLY 4.5 - 5' DOWN FROM THE SURFACE.

5. NEW ENGLAND TELEPHONE CO. CAN NOT FIND ANY RECORDS OF LINES WITHIN INDIA STREET.

6. THE FOLLOWING REPORT THAT THEY HAVE NO LINES WITHIN INDIA STREET OR WITHIN McKINLEY SQUARE SOUTH OF THE U S CUSTOM HOUSE.
   CABLEVISION (CABLE TELEVISION)
   BOSTON THERMAL (STEAM)
   M B T A
   CITY OF BOSTON STREET LIGHTING

ROBERT G. APPLEGATE No. 29514

Robert G. Applegate 10/25/90

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MAP

COMPILED UTILITY PLAN
CUSTOM HOUSE AREA
BOSTON, MASS.

SCALE: 1" = 20'
HARRY R. FELDMAN, INC.
112 SHAWMUT AVENUE

OCTOBER 22, 1990
LAND SURVEYORS
BOSTON, MASS

PHONE: (617) 357-9740

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